UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2020

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from__________ to __________

Commission File Number: 001-34846

RealPage, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**75-2788861**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

2201 Lakeside Boulevard, Richardson, Texas 75082-4305
(Address of principal executive offices)
(Zip Code)

(972) 820-3000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.001 par value	RP	The NASDAQ Stock Market LLC

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act:

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	October 26, 2020
Common Stock, $0.001 par value	101,851,538

INDEX

PART I—FINANCIAL INFORMATION

Item 1. Financial Statements.

RealPage, Inc.

Condensed Consolidated Balance Sheets
(in thousands, except per share and share amounts)

	September 30, 2020	December 31, 2019
	(unaudited)	
Assets		
Current assets:		
Cash and cash equivalents	$ 612,118	$ 197,154
Restricted cash	231,351	243,323
Accounts receivable, less allowances of $ 12,186 and $ 10,271 at September 30, 2020 and December 31, 2019, respectively	130,118	143,127
Prepaid expenses	34,802	24,539
Other current assets	32,187	27,387
Total current assets	1,040,576	635,530
Property, equipment, and software, net	176,994	163,282
Right-of-use assets	113,557	121,941
Goodwill	1,725,872	1,611,749
Intangible assets, net	350,400	372,996
Deferred tax assets, net	21,925	33,812
Other assets	27,550	30,507
Total assets	$ 3,456,874	$ 2,969,817
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 40,935	$ 40,092
Accrued expenses and other current liabilities	106,659	89,038
Current portion of deferred revenue	134,003	134,148
Current portion of term loans	30,000	18,750
Convertible notes, net	314,935	—
Customer deposits held in restricted accounts	232,554	243,316
Total current liabilities	859,086	525,344
Deferred revenue	4,724	4,793
Revolving facility	—	230,000
Term loans, net	553,201	575,313
Convertible notes, net	285,462	305,188
Lease liabilities, net of current portion	124,452	133,313
Other long-term liabilities	41,835	22,940
Total liabilities	1,868,760	1,796,891
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Preferred stock, $0.001 par value: 10,000,000 shares authorized and zero shares issued and outstanding at September 30, 2020 and December 31, 2019, respectively	—	—
Common stock, $0.001 par value: 250,000,000 shares authorized, 102,260,247 and 96,100,296 shares issued and 101,923,802 and 94,744,157 shares outstanding at September 30, 2020 and December 31, 2019, respectively	102	96
Additional paid-in capital	1,578,661	1,222,356
Treasury stock, at cost: 336,445 and 1,356,139 shares at September 30, 2020 and December 31, 2019, respectively	(10,468)	(39,483)
Retained earnings (deficit)	25,036	(7,695)
Accumulated other comprehensive loss	(5,217)	(2,348)
Total stockholders' equity	1,588,114	1,172,926
Total liabilities and stockholders' equity	$ 3,456,874	$ 2,969,817

See accompanying notes.

RealPage, Inc.

Condensed Consolidated Statements of Operations
(in thousands, except per share amounts)
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Revenue:				
On demand	$ 290,239	$ 245,637	$ 837,269	$ 707,341
Professional and other	7,910	9,565	23,160	26,028
Total revenue	298,149	255,202	860,429	733,369
Cost of revenue	111,497	98,783	331,120	284,685
Amortization of product technologies	14,236	10,315	42,539	29,729
Gross profit	172,416	146,104	486,770	418,955
Operating expenses:				
Product development	34,066	27,866	97,047	85,914
Sales and marketing	55,563	51,906	159,644	145,849
General and administrative	37,909	31,249	120,836	87,702
Amortization of intangible assets	11,206	10,444	33,872	30,682
Total operating expenses	138,744	121,465	411,399	350,147
Operating income	33,672	24,639	75,371	68,808
Interest expense and other, net	(13,305)	(8,764)	(38,732)	(22,773)
Income before income taxes	20,367	15,875	36,639	46,035
Income tax expense	4,026	4,171	3,392	7,996
Net income	$ 16,341	$ 11,704	$ 33,247	$ 38,039
Net income per share attributable to common stockholders:				
Basic	$ 0.16	$ 0.13	$ 0.35	$ 0.41
Diluted	$ 0.16	$ 0.12	$ 0.33	$ 0.39
Weighted average common shares outstanding:				
Basic	99,334	92,239	95,926	91,884
Diluted	103,385	97,114	99,898	96,392

See accompanying notes.

RealPage, Inc.

Condensed Consolidated Statements of Comprehensive Income
(in thousands)
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Net income	$ 16,341	$ 11,704	$ 33,247	$ 38,039
Other comprehensive income (loss):				
Unrealized gain (loss) on derivative instruments, net of tax	309	(143)	(3,654)	(1,720)
Reclassification adjustment for losses (gains) included in earnings on derivative instruments, net of tax	332	(135)	841	(578)
Foreign currency translation adjustment	269	258	(56)	277
Other comprehensive income (loss), net of tax	910	(20)	(2,869)	(2,021)
Comprehensive income	$ 17,251	$ 11,684	$ 30,378	$ 36,018

See accompanying notes.

RealPage, Inc.

Condensed Consolidated Statements of Stockholders' Equity
(in thousands)
(unaudited)

	Nine-Month Period Ended September 30, 2020							
	Common Stock					Treasury Stock		
	Shares	Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Retained Earnings (Deficit)	Shares	Amount	Total Stockholders' Equity
Balance as of January 1, 2020	96,100	$ 96	$ 1,222,356	$ (2,348)	$ (7,695)	1,356	$ (39,483)	$ 1,172,926
Public offering of common stock, net	5,847	6	334,120	—	—	—	—	334,126
Stock option exercises	246	—	(375)	—	—	(250)	8,398	8,023
Issuance of restricted stock	77	—	(40,252)	—	—	(1,376)	40,752	500
Treasury stock purchased, at cost	—	—	9,596	—	—	616	(20,775)	(11,179)
Retirement of treasury stock	(10)	—	(124)	—	(516)	(10)	640	—
Stock-based compensation	—	—	40,884	—	—	—	—	40,884
Purchase of capped call instrument	—	—	(39,365)	—	—	—	—	(39,365)
Equity component of convertible senior notes, net of issuance costs and deferred tax	—	—	51,821	—	—	—	—	51,821
Other comprehensive loss - derivative instruments	—	—	—	(2,813)	—	—	—	(2,813)
Foreign currency translation	—	—	—	(56)	—	—	—	(56)
Net income	—	—	—	—	33,247	—	—	33,247
Balance as of September 30, 2020	102,260	$ 102	$ 1,578,661	$ (5,217)	$ 25,036	336	$ (10,468)	$ 1,588,114

See accompanying notes.

RealPage, Inc.

Condensed Consolidated Statements of Stockholders' Equity, continued
(in thousands)
(unaudited

	Three-Month Period Ended September 30, 2020							
	Common Stock					Treasury Stock		
	Shares	Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Retained Earnings (Deficit)	Shares	Amount	Total Stockholders' Equity
Balance as of July 1, 2020	102,206	$ 102	$ 1,561,672	$ (6,127)	$ 8,695	216	$ (4,527)	$ 1,559,815
Stock option exercises	14	—	301	—	—	—	—	301
Issuance of restricted stock	40	—	500	—	—	—	—	500
Treasury stock purchased, at cost	—	—	1,645	—	—	120	(5,941)	(4,296)
Stock-based compensation	—	—	14,543	—	—	—	—	14,543
Other comprehensive income - derivative instruments	—	—	—	641	—	—	—	641
Foreign currency translation	—	—	—	269	—	—	—	269
Net income	—	—	—	—	16,341	—	—	16,341
Balance as of September 30, 2020	102,260	$ 102	$ 1,578,661	$ (5,217)	$ 25,036	336	$ (10,468)	$ 1,588,114

See accompanying notes.

RealPage, Inc.

Condensed Consolidated Statements of Stockholders' Equity, continued
(in thousands)
(unaudited)

	Nine-Month Period Ended September 30, 2019							
	Common Stock					Treasury Stock		
	Shares	Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Retained Earnings (Deficit)	Shares	Amount	Total Stockholders' Equity
Balance as of January 1, 2019	95,991	$ 96	$ 1,187,683	$ (492)	$ (58,793)	2,341	$ (65,470)	$ 1,063,024
Cumulative effect of adoption of ASU 2017-12, *Derivatives and Hedging*	—	—	—	25	(25)	—	—	—
Issuance of common stock in connection with our acquisitions	234	—	14,846	—	—	—	—	14,846
Stock option exercises	32	—	(1,962)	—	—	(200)	6,416	4,454
Issuance of restricted stock	7	—	(40,733)	—	—	(1,331)	41,232	499
Treasury stock purchased, at cost	—	—	2,375	—	—	509	(19,146)	(16,771)
Retirement of treasury stock	(12)	—	(152)	—	(592)	(12)	744	—
Stock-based compensation	—	—	47,242	—	—	—	—	47,242
Other comprehensive loss- derivative instruments	—	—	—	(2,298)	—	—	—	(2,298)
Foreign currency translation	—	—	—	277	—	—	—	277
Net income	—	—	—	—	38,039	—	—	38,039
Balance as of September 30, 2019	96,252	$ 96	$ 1,209,299	$ (2,488)	$ (21,371)	1,307	$ (36,224)	$ 1,149,312

See accompanying notes.

RealPage, Inc.

Condensed Consolidated Statements of Stockholders' Equity, continued
(in thousands)
(unaudited)

	Three-Month Period Ended September 30, 2019							
	Common Stock					Treasury Stock		
	Shares	Amount	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Retained Earnings (Deficit)	Shares	Amount	Total Stockholders' Equity
Balance as of July 1, 2019	96,152	$ 96	$ 1,189,875	$ (2,468)	$ (33,075)	1,292	$ (34,109)	$ 1,120,319
Issuance of common stock in connection with our acquisitions	80	—	5,000	—	—	—	—	5,000
Stock option exercises	13	—	(685)	—	—	(62)	2,070	1,385
Issuance of restricted stock	7	—	(1,734)	—	—	(63)	2,233	499
Treasury stock purchased, at cost	—	—	755	—	—	140	(6,418)	(5,663)
Stock-based compensation	—	—	16,088	—	—	—	—	16,088
Other comprehensive loss- derivative instruments	—	—	—	(278)	—	—	—	(278)
Foreign currency translation	—	—	—	258	—	—	—	258
Net income	—	—	—	—	11,704	—	—	11,704
Balance as of September 30, 2019	96,252	$ 96	$ 1,209,299	$ (2,488)	$ (21,371)	1,307	$ (36,224)	$ 1,149,312

See accompanying notes.

RealPage, Inc.

Condensed Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Nine Months Ended September 30,	
	2020	**2019**
Cash flows from operating activities:		
Net income	$ 33,247	$ 38,039
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	102,553	86,106
Amortization of debt discount and issuance costs	14,320	10,189
Amortization of right-of-use assets	10,269	8,684
Deferred taxes	2,915	8,031
Stock-based expense	44,349	47,276
Loss on disposal and impairment of other long-lived assets	12	259
Change in fair value of equity investment	—	(2,600)
Acquisition-related consideration	(786)	1,093
Changes in assets and liabilities, net of assets acquired and liabilities assumed in business combinations:		
Accounts receivable	16,950	(5,087)
Prepaid expenses and other current assets	(13,972)	(4,746)
Other assets	2,515	171
Accounts payable	(655)	7,836
Accrued compensation, taxes, and benefits	10,279	(1,620)
Deferred revenue	(4,115)	1,517
Customer deposits	(14,211)	(1,034)
Other current and long-term liabilities	4,391	(7,969)
Net cash provided by operating activities	208,061	186,145
Cash flows from investing activities:		
Purchases of property, equipment, and software	(48,311)	(38,511)
Acquisition of businesses, net of cash and restricted cash acquired	(129,696)	(50,059)
Purchase of other investment	—	(1,750)
Net cash used in investing activities	(178,007)	(90,320)
Cash flows from financing activities:		
Proceeds from term loans	—	300,000
Payments on term loans	(11,250)	(304,996)
Payments on revolving credit facility	(230,000)	—
Proceeds from borrowings on convertible notes	345,000	—
Purchase of capped call hedge	(39,365)	—
Payments of deferred financing costs	(7,485)	(3,306)
Payments on finance lease obligations	(2,464)	(2,879)
Payments of acquisition-related consideration	(12,260)	(26,343)
Proceeds from public offering, net of underwriters' discount and offering costs	334,126	—
Proceeds from exercise of stock options	8,023	4,454
Purchase of treasury stock related to stock-based compensation	(10,516)	(16,771)
Other financing activities, net	(815)	—
Net cash provided by (used in) financing activities	372,994	(49,841)
Net increase in cash, cash equivalents and restricted cash	403,048	45,984
Effect of exchange rate on cash	(56)	277
Cash, cash equivalents and restricted cash:		
Beginning of period	440,477	382,758
End of period	$ 843,469	$ 429,019

RealPage, Inc.

Condensed Consolidated Statements of Cash Flows, continued
(in thousands)
(unaudited)

	Nine Months Ended September 30, 2020	Nine Months Ended September 30, 2019
Supplemental cash flow information:		
Cash paid for interest	$ 18,509	$ 15,740
Cash paid for income taxes, net	$ 1,657	$ 1,872
Right-of-use assets obtained in exchange for operating lease obligations	$ 5,127	$ 21,192
Non-cash investing and financing activities:		
Accrued property, equipment, and software	$ 2,447	$ 2,259
Acquisition-related liabilities settled with equity	$ —	$ 14,846

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the Condensed Consolidated Balance Sheets and that shown in the Condensed Consolidated Statements of Cash Flows:

	September 30, 2020	December 31, 2019
Cash and cash equivalents	$ 612,118	$ 197,154
Restricted cash	231,351	243,323
Total cash, cash equivalents and restricted cash shown in the Condensed Consolidated Statements of Cash flows	$ 843,469	$ 440,477

See accompanying notes.

RealPage, Inc.

Notes to the Condensed Consolidated Financial Statements
(unaudited)

1. The Company

RealPage, Inc., a Delaware corporation (together with its subsidiaries, the "Company" or "we" or "us"), is a leading global provider of software and data analytics to the real estate industry. Our platform of data analytics and software solutions enables the rental real estate industry to manage property operations (such as marketing, pricing, screening, leasing, payment processing and accounting), identify opportunities through market intelligence, and obtain data-driven insight for better operational and financial decision-making. Our integrated, on demand platform provides a single point of access and a massive repository of real-time lease transaction data, including prospect, renter, and property data. By leveraging data as well as integrating and streamlining a wide range of complex processes and interactions among the rental real estate ecosystem (owners, managers, prospects, renters, service providers, and investors), our platform helps our clients improve financial and operational performance and prudently place and harvest capital.

During the quarter ended September 30, 2020, we continued to respond to the challenges that the evolving COVID-19 virus ("COVID-19") pandemic created for us and our customers. Almost all of our staff continued to operate in a work-from-home environment while simultaneously supporting our customers as they used our software services to sustain their operations while reducing in-person interactions with their customers. Portions of our business, including our electronic payment processing services, experienced continued growth during the quarter. Certain of our other services that experienced lower transactional volumes during the second quarter as a result of COVID-19 began returning to more normalized levels during the third quarter. Many countries, including the United States, are still experiencing high levels of new COVID-19 infections, and the ultimate severity and duration of the outbreak and its effect on our future operations is uncertain. It is possible that the COVID-19 pandemic, the measures taken by the governments of countries affected, and the resulting economic impact could still materially adversely affect our future results of operations, cash flows and financial position, as well as the financial health of our customers.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited Condensed Consolidated Financial Statements and footnotes have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC"). The unaudited Condensed Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. We believe that the disclosures made are appropriate and conform to those rules and regulations, and that the condensed or omitted information is not misleading.

The unaudited Condensed Consolidated Financial Statements included herein reflect all adjustments (consisting of normal, recurring adjustments) which are, in the opinion of management, necessary to state fairly the results for the interim periods presented. All intercompany balances and transactions have been eliminated in consolidation. The results of operations for the interim periods presented are not necessarily indicative of the operating results to be expected for any subsequent interim period or for the fiscal year.

These financial statements should be read in conjunction with the financial statements and the notes thereto included in our Annual Report on Form 10-K filed with the SEC on March 2, 2020 ("Annual Report on Form 10-K").

Concentrations of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist principally of cash and cash equivalents and accounts receivable. Our cash accounts are maintained at various high credit quality financial institutions and may exceed federally insured limits. We have not experienced any losses in such accounts.

Substantially all of our accounts receivable are derived from clients in the residential rental housing market. Concentrations of credit risk with respect to accounts receivable and revenue have historically been limited because our customers are geographically dispersed across primarily the United States. Furthermore, no single client accounted for 10% or more of our revenue or accounts receivable for the three or nine months ended September 30, 2020 or 2019. We do not require collateral from clients.

The financial health of our customers, including their ability to generate cash flows sufficient to meet their obligations to us, is dependent on, among other things, the ability of their residents to meet their lease obligations on a consistent and timely basis. A portion of those residents have already been, or may in the future be, affected by the general business closures and limitations resulting from the COVID-19 pandemic. The degree to which our customers will be adversely affected by COVID-19 is still not yet fully known and will be affected by several factors including the severity and duration of what has become a prolonged outbreak in the United States, the effect of the expiration of initial government subsidies, and the scope and duration of any new subsidies that may be provided to both residents, owners and managers of rental properties and other businesses in general.

We maintain an allowance for credit losses based upon the expected collectability of accounts receivable using historical loss rates adjusted for forward-looking assumptions based on management's judgments. During the nine months ended September 30, 2020, we have not recognized additional allowances as a result of COVID-19. Nevertheless, our reserves may not be sufficient if the effects of COVID-19 on our customers become more severe or continue for an extended term. We continue to work closely with our customers to help them address the operational challenges they face as a result of COVID-19, and we will adjust our estimates of reserves for credit losses in future periods as appropriate.

Segment and Geographic Information

Our chief operating decision maker is our Chief Executive Officer, who reviews financial information presented on a consolidated basis for purposes of allocating resources and evaluating financial performance. Accordingly, we have determined we operate as a single reporting segment and operating unit.

Principally, all of our revenue for the three and nine months ended September 30, 2020 and 2019 was earned in the United States. Net property, equipment, and software located in the United States amounted to $167.1 million and $154.5 million at September 30, 2020 and December 31, 2019, respectively. Net property, equipment, and software located in our international subsidiaries amounted to $9.9 million and $8.8 million at September 30, 2020 and December 31, 2019, respectively. Substantially all of the net property, equipment, and software held in our international subsidiaries was located in the Philippines and India at both September 30, 2020 and December 31, 2019.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make certain estimates and assumptions that affect the amounts reported and disclosed in the financial statements and accompanying notes. Such significant estimates include, but are not limited to, the determination of the allowances against our accounts receivable; useful lives of intangible assets; impairment assessments on long-lived assets (including goodwill and indefinite-lived intangible assets); contingent commissions related to the sale of insurance products; fair value of acquired net assets and contingent consideration in connection with business combinations; the nature and timing of the satisfaction of performance obligations and related reserves; fair values of stock-based awards; loss contingencies; and the recognition, measurement and valuation of current and deferred income taxes. Actual results could differ from these estimates. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable, the result of which forms the basis for making judgments about the carrying value of assets and liabilities. For greater detail regarding these accounting policies and estimates, refer to our Annual Report on Form 10-K.

During 2020, we have taken specific steps in response to COVID-19, including employing work-from-home strategies, in order to continue to provide services to our customers without any significant interruption in those services. We have considered COVID-19 in preparing the estimates used in the preparation of our financial statements for the three and nine months ended September 30, 2020, but the ultimate effect on our financial results and those of our customers in the near and long term is still uncertain. We will continue to revise our estimates in future periods for additional changes brought about by the evolving COVID-19 pandemic or other issues as additional information becomes available.

Cash and Cash Equivalents and Restricted Cash

We consider all highly liquid investments with an initial maturity of three months or less at the date of purchase to be cash equivalents. The fair value of our cash and cash equivalents approximates carrying value.

Restricted cash primarily consists of cash collected from tenants that will be remitted to our clients.

Accounts Receivable

Accounts receivable primarily represent trade receivables from clients recorded at the invoiced amount, net of allowances which are based on our historical experience, the aging of our trade receivables, and management judgment.

Trade receivables are written off against the allowance when management determines a balance is uncollectible.We incurred bad debt expense of $0.8 million and $0.5 million for the three months ended, and $3.1 million and $1.9 million for the nine months ended September 30, 2020 and 2019, respectively.

Internally Developed Software

Costs incurred to develop software intended for our internal use are capitalized during the application development stage. Capitalization of such costs ceases once the project is substantially complete and ready for its intended use. We also capitalize costs related to specific upgrades and enhancements when it is probable the expenditure will result in additional functionality. Costs related to preliminary project activities and post-implementation operating activities are expensed as incurred.

Internally developed software costs are included in “Property, equipment, and software, net” in the accompanying Condensed Consolidated Balance Sheets and are amortized on a straight-line basis over their expected useful lives. Amortization of internally developed software is included in “Amortization of product technologies” in the accompanying Condensed Consolidated Statements of Operations.

Business Combinations

We allocate the fair value of the purchase consideration of our acquisitions to the tangible assets acquired, liabilities assumed, and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. Purchase consideration includes assets transferred, liabilities assumed, and/or equity interests issued by us, all of which are measured at their fair value as of the date of acquisition. Our business combination transactions may be structured to include a combination of up-front, deferred and contingent payments to be made at specified dates subsequent to the date of acquisition. These payments may include a combination of cash and equity and are generally settled within one to four years from the date of acquisition. Deferred and contingent payments determined to be purchase consideration are recorded at fair value as of the acquisition date. Deferred obligations are generally subject to adjustments specified in the underlying purchase agreement related to the seller’s indemnification obligations, including indemnification assets that contractually can be recorded as a reduction to outstanding deferred obligations. Our contingent consideration arrangements are obligations to make future payments to sellers contingent upon the achievement of future operational or financial targets and are remeasured to fair value at the end of each reporting period until the obligations are settled.

The valuation of the net assets acquired as well as certain elements of purchase consideration requires management to make significant estimates and assumptions, especially with respect to future expected cash flows, useful lives, and discount rates. Management’s estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain, and, as a result, actual results may differ from estimates. During the measurement period, we may record adjustments to the assets acquired and liabilities assumed with a corresponding offset to goodwill. Subsequent changes to the fair value of contingent consideration are reflected in “General and administrative” in the accompanying Condensed Consolidated Statements of Operations.

Acquisition costs are expensed as incurred and are included in “General and administrative” in the accompanying Condensed Consolidated Statements of Operations. We include the results of operations from acquired businesses in our condensed consolidated financial statements from the effective date of the acquisition.

Goodwill and Indefinite-Lived Intangible Assets

We test goodwill and indefinite-lived intangible assets for impairment separately on an annual basis in the fourth quarter of each year, or more frequently if circumstances indicate that the assets may not be recoverable. For purposes of goodwill impairment testing, we have one reporting unit.

We evaluate impairment of goodwill either by assessing qualitative factors to determine whether it is more likely than not that the fair value of our reporting unit is less than its carrying amount, or by performing a quantitative assessment. Qualitative factors include industry and market considerations, overall financial performance, and other relevant events and circumstances affecting the reporting unit. If we choose to perform a qualitative assessment and after considering the totality of events or circumstances, we determine it is more likely than not that the fair value of our reporting unit is less than its carrying amount, we would perform a quantitative fair value test. Our quantitative impairment assessment utilizes a weighted combination of a discounted cash flow model (known as the income approach) and comparisons to publicly traded companies engaged in similar businesses (known as the market approach). These approaches involve judgmental assumptions, including forecasted future cash flows expected to be generated by the business over an extended period of time, long-term growth rates, the identification of comparable companies, and our discount rate based on our weighted average cost of capital. These assumptions are predominately unobservable inputs and considered Level 3 measurements. We adopted ASU 2017-04, *Intangibles - Goodwill and Other*, which simplifies the testing for goodwill impairment by eliminating the requirement to determine the fair value of individual assets and liabilities of a reporting unit to measure goodwill impairment, prospectively on January 1, 2020. To calculate any potential impairment when we perform a quantitative test, we compare the fair value of our reporting unit with its carrying amount, including goodwill. Any excess of the carrying amount of the reporting unit over its fair value is recognized as an impairment loss, and the carrying value of goodwill is written down.

We quantitatively evaluate indefinite-lived intangible assets for impairment by estimating the fair value of those assets based on estimated future earnings derived from the assets using the income approach. Key assumptions for this assessment include forecasted future cash flows from estimated royalty rates and our discount rate based on our weighted average cost of capital. These assumptions are unobservable Level 3 measurements. Assets with indefinite lives that have been determined to be inseparable due to their interchangeable use are grouped into single units of accounting for purposes of testing for impairment. If the carrying amount of an identified intangible asset with an indefinite life exceeds its fair value, we would recognize an impairment loss equal to the excess of carrying value over fair value.

Leases

We determine if an arrangement contains a lease at inception. Right-of-use (“ROU”) assets represent our right to use an underlying asset for the lease term and the corresponding lease liabilities represent our obligation to make lease payments arising from the lease. Our ROU assets and lease liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. The ROU asset is reduced for tenant incentives and excludes any initial direct costs incurred. For our real estate contracts with lease and non-lease components, we have elected to combine the lease and non-lease components into a single lease component. The implicit rate within our leases are generally not readily determinable, and instead we use our incremental borrowing rate at the lease commencement date to determine the present value of lease payments. The determination of our incremental borrowing rate requires judgment. We determine our incremental borrowing rate for each lease using our current borrowing rate, adjusted for various factors including collateralization and term to align with the terms of the lease. Certain of our leases include options to extend the lease. Our lease values include options to extend the lease when it is reasonably certain we will exercise such options.

Operating and finance leases are included in “Right-of-use assets”, “Accrued expenses and other current liabilities”, and “Lease liabilities, net of current portion” in the accompanying Condensed Consolidated Balance Sheets.

Lease expenses for minimum lease payments for operating leases are recognized on a straight-line basis over the lease term. Amortization expense of the ROU asset for finance leases is recognized on a straight-line basis over the lease term and interest expense for finance leases is recognized based on the incremental borrowing rate.

We have elected not to recognize a lease liability or ROU asset for short-term leases, defined as those which have an initial term of twelve months or less.

Deferred Revenue

For several of our solutions, we invoice our clients in annual, monthly, or quarterly installments in advance of the commencement of the service period. Deferred revenue is recognized when billings are due or payments are received in advance of revenue recognition from our subscription and other services. Accordingly, the deferred revenue balance does not represent the total contract value of annual subscription agreements.

Revenue Recognition

Revenues are derived from on demand software solutions, professional services and other goods and services. We recognize revenue as we satisfy one or more service obligations under the terms of a contract, generally as control of goods and services are transferred to our clients. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. We include estimates of variable consideration in revenue to the extent that it is probable that a significant reversal of cumulative revenue will not occur. We estimate and accrue a reserve for credits and other adjustments as a reduction to revenue based on several factors, including past history.

On Demand Revenue

Our on demand revenue consists of license and subscription fees, transaction and payment processing fees related to certain of our software-enabled value-added services, and commissions derived from our selling certain risk mitigation services.

We generally recognize revenue from subscription fees on a straight-line basis over the access period beginning on the date that we make our service available to the client. Our subscription agreements generally are non-cancellable, have an initial term of one year or longer and are billed either monthly, quarterly or annually in advance. Non-refundable up-front fees billed at the initial order date that are not associated with an up-front service obligation are recognized as revenue on a straight-line basis over the period in which the client is expected to benefit, which we consider to be three years.

We recognize revenue from transaction fees in the month the related services are performed based on the amount we have the right to invoice.

We offer risk mitigation services to our clients by acting as an insurance agent and derive commission revenue from the sale of insurance products to our clients’ residents. The commissions are based upon a percentage of the premium that the insurance company charges to the policyholder and are subject to forfeiture in instances where a policyholder cancels prior to the end of the policy. Our contracts with our underwriting partners provide for contingent commissions to be paid to us in accordance with the agreements. Our estimate of contingent commission revenue considers the variable factors identified in the terms of the applicable agreement. We recognize commissions related to these services as earned ratably over the policy term and insurance commission receivable in “Accounts receivable, less allowances”.

Professional and Other Revenue

Professional services and other revenues generally consist of the fees we receive for providing implementation and consulting services, submeter equipment and ongoing maintenance of our existing on premise licenses.

Professional services are billed either on a time and materials basis or on a fixed price basis, and revenue is recognized over time as we perform the obligation. Professional services are typically sold bundled in a contract with other on demand solutions but may be sold separately. Professional service contracts sold separately generally have terms of one year or less. For bundled arrangements, where we account for individual services as a separate performance obligation, the transaction price is allocated between separate services in the bundle based on their relative standalone selling prices.

Other revenues consist primarily of submeter equipment sales that include related installation services. Such sales are considered bundled, and revenue from these bundled sales is recognized in proportion to the number of installed units completed to date as compared to the total contracted number of units to be provided and installed. For all other equipment sales, we generally recognize revenue when control of the hardware has transferred to our client.

Revenue recognized for on premise software sales generally consists of annual maintenance renewals on existing term or perpetual licenses, which is recognized ratably over the service period.

Contracts with Multiple Performance Obligations

The majority of the contracts we enter into with clients, including multiple contracts entered into at or near the same time with the same client, require us to provide one or more on demand software solutions, professional services and may include equipment. For these contracts, we account for individual performance obligations separately: i) if they are distinct or ii) if the promised obligations represent a series of distinct services that are substantially the same and have the same pattern of transfer to the client. Once we determine the performance obligations, we determine the transaction price, which includes estimating the amount of variable consideration, if any, to be included in the transaction price. For contracts with multiple performance obligations, we allocate the transaction price to the separate performance obligations on a relative standalone selling price basis. The standalone selling prices of our service are estimated using a market assessment approach based on our overall pricing objectives taking into consideration market conditions and other factors including the number of solutions sold, client demographics and the number and types of users within our contracts.

Sales, value add, and other taxes we collect from clients and remit to governmental authorities are excluded from revenues.

Fair Value Measurements

We measure our financial instruments and acquisition-related contingent consideration obligations at fair value at each reporting period using a fair value hierarchy. A financial instrument’s classification within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. Three levels of inputs may be used to measure fair value:

Level 1 - Inputs are quoted prices in active markets for identical assets or liabilities.

Level 2 - Inputs are quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable, and market-corroborated inputs which are derived principally from or corroborated by observable market data.

Level 3 - Inputs are derived from valuation techniques in which one or more of the significant inputs or value drivers are unobservable.

The categorization of an asset or liability is based on the inputs described above and does not necessarily correspond to our perceived risk of that asset or liability. Moreover, the methods used by us may produce a fair value calculation that is not indicative of the net realizable value or reflective of future fair values. Furthermore, although we believe our valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments and non-financial assets and liabilities could result in a different fair value measurement at the reporting date.

Certain financial instruments, which may include cash, cash equivalents, restricted cash, accounts receivable, accounts payable and accrued expenses are recorded at their carrying amounts, which approximates their fair values due to their short-term nature.

We hold an equity investment which does not have a readily determinable fair value. We measure this investment at cost less impairment, plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer.

Recently Adopted Accounting Standards

Accounting Standards Update 2016-13

In June 2016, the Financial Accounting Standards Board (“FASB”) issued ASU 2016-13,*Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The amendments in this ASU replaced the incurred loss impairment methodology in GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. Our financial assets in the scope of ASU 2016-13 mainly consist of short-term trade receivables. We have also considered contract assets in our evaluation. Historically, our actual credit losses have not been material. In addition to continuing to individually assess overdue customer balances for expected credit losses, we have implemented modifications to our historical methodology that reflect the expected credit losses on receivables considering both historical experience and forward-looking assumptions. We adopted ASU 2016-13 using the modified retrospective approach on January 1, 2020, resulting in no cumulative adjustment to retained earnings. The adoption of this ASU did not have a material impact on our Condensed Consolidated Financial Statements. We will continue to actively monitor the impact of the COVID-19 pandemic on expected credit losses.

The rollforward of the allowance for credit losses, a component of our allowance for accounts receivable, as of September 30, 2020 was as follows (in thousands):

Balance as of January 1, 2020	$	4,545
Provision for credit losses		1,097
Write-offs, net of recoveries		(527)
Balance as of March 31, 2020		5,115
Provision for credit losses		1,168
Write-offs, net of recoveries		(740)
Balance as of June 30, 2020		5,543
Provision for credit losses		800
Write-offs, net of recoveries		(682)
Balance as of September 30, 2020	$	5,661

Accounting Standards Update 2018-15

In August 2018, the FASB issued ASU 2018-15, *Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That is a Service Contract.* This ASU aligns the requirements for capitalizing implementation costs incurred in a cloud-based hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. We adopted ASU 2018-15 prospectively as of January 1, 2020. The impact to our financial statements will depend on the nature of our future cloud computing arrangements; however, this standard did not have a material impact on our financial statements as of September 30, 2020.

Accounting Standards Update 2020-04

In March 2020, the FASB issued ASU 2020-04, *Reference Rate Reform (Topic 848).* ASU 2020-04 contains practical expedients for activities related to reference rate reform that impact debt, leases, derivatives and other contracts. The guidance in ASU 2020-04 is optional and may be elected over time as reference rate reform activities occur. During the first quarter of 2020, we elected to apply the hedge accounting expedients related to probability and the assessments of effectiveness for future LIBOR-indexed cash flows to assume that the index upon which future hedged transactions will be based matches the index on the corresponding derivatives. Application of these expedients preserves the presentation of derivatives consistent with past presentation. We continue to evaluate the impact of the guidance and may apply other elections, as applicable, as additional changes in the market occur.

Recently Issued Accounting Standards

Accounting Standards Update 2019-12

In December 2019, the FASB issued ASU 2019-12, *Simplifying the Accounting for Income Taxes,* which is intended to simplify various aspects related to accounting for income taxes. ASU 2019-12 removes certain exceptions to the general principles in Topic 740 and also clarifies and amends existing guidance to improve consistent application. ASU 2019-12 will be effective for interim and annual periods beginning after December 15, 2020. Early adoption is permitted. We are currently evaluating the impact of adopting this standard on our consolidated financial statements, however we do not expect it to have a material impact.

Accounting Standards Update 2020-06

In August 2020, the FASB issued ASU 2020-06, *Debt - Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity*. This ASU simplifies the accounting for certain convertible instruments by eliminating the requirement to separate convertible notes into debt and equity components, instead allowing for the convertible debt to be accounted for as a single liability measured at its amortized cost. These changes will reduce reported interest expense to an amount more closely aligned with the convertible debt instrument's coupon interest rate and increase reported net income for entities that have issued a convertible instrument that was bifurcated according to existing GAAP. Furthermore, this ASU amends the diluted earnings per share calculation for convertible instruments by requiring the use of the if-converted method. Our use of the treasury stock method will no longer be available. ASU 2020-06 will be effective for fiscal years beginning after December 15, 2021, with early adoption permitted for interim and annual reporting periods beginning after December 15, 2020. We expect to early adopt this ASU effective January 1, 2021 and are still assessing our method of adoption. Under ASU 2020-06, we expect our total remaining interest expense over the contractual terms of our convertible debt to be approximately $73.0 million less than under the existing accounting standards. We continue to evaluate the impact of the guidance on our net income, basic and dilutive earnings per share.

3. Acquisitions

2020 Acquisitions

Chirp

On September 21, 2020, we entered into an Agreement and Plan of Merger, by which we acquired all the outstanding stock of Chirp Systems, Inc. ("Chirp"), a provider of smart access software and technology solutions to the multifamily housing industry. Aggregate purchase consideration was $16.8 million, including contingent consideration of up to $10.0 million that is tied to operational performance targets through 2022, and deferred cash obligations of up to $1.3 million, subject to working capital adjustments and indemnification claims. The acquisition was financed with cash on hand. The parent company of one of the significant selling shareholders of Chirp is a customer of RealPage. In addition, a member of the board of directors of that customer is also a member of our board of directors.

Certain executives of Chirp at or near the transaction date were provided up to $5.0 million in retention incentives tied to post acquisition employment service and the achievement of performance targets by December 31, 2023. The incentives will be in the form of restricted stock grants that may be settled in the future in stock or cash, at our option. As of September 30, 2020, we expect the executives to earn a payout of $1.7 million under these awards, and we will update this estimate on a quarterly basis. As these awards are tied in part to employment services, we will record the estimated amount as stock-based compensation expense over the requisite service period.

The acquired identified intangible assets consist of developed technology and client relationships that were each assigned estimated useful lives of seven years. Preliminary goodwill recognized of $12.1 million is primarily comprised of expansion of our product offerings into the smart access market as part of our *CommunityConnect* business as well as anticipated synergies from sale of such products to our existing customers. Goodwill and the acquired intangible assets are not deductible for tax purposes. Acquisition costs associated with this transaction totaled $0.2 million.

Stratis

On August 31, 2020, we entered into an Agreement and Plan of Merger, by which we acquired all the outstanding stock of Stratis IoT, Inc. ("Stratis"), a provider of software, technology and services that enable smart apartments and intelligent buildings, including a software-as-a-service ("SaaS") platform specifically built for the complexities of the multifamily and student housing industries. Aggregate purchase consideration was $64.8 million, including deferred cash obligations of up to $6.0 million, subject to working capital adjustments and indemnification claims. The acquisition was financed with cash on hand.

Certain employees of Stratis at or near the transaction date were provided up to $15.0 million in retention incentives tied to post acquisition employment service and the achievement of performance targets by June 30, 2024. The incentives will be in the form of restricted stock grants that may be settled in the future in stock or cash, at our option. As of September 30, 2020, we expect the employees to earn a payout of $5.0 million under these awards, and we will update this estimate on a quarterly basis. As these awards are tied in part to employment services, we will record the estimated amount as stock-based compensation expense over the requisite service period.

The acquired identified intangible assets consisted of developed technology, client relationships, and trade names that were assigned estimated useful lives of seven, ten and three years, respectively. Preliminary goodwill recognized of $50.5 million is primarily comprised of expansion of our product offerings into the smart devices and intelligent building market as part of our *CommunityConnect* business as well as anticipated synergies from sale of such products to our existing customers. Goodwill and the acquired intangible assets are not deductible for tax purposes. Acquisition costs associated with this transaction totaled $0.6 million.

Modern Message

On January 22, 2020, we entered into an Agreement and Plan of Merger, by which we acquired all the outstanding stock of Modern Message Inc. ("Modern Message"), a provider of resident engagement solutions to the multifamily housing industry. Aggregate purchase consideration was $64.7 million, including deferred cash obligations of up to $2.0 million, subject to working capital adjustments and indemnification claims. In addition, the Agreement and Plan of Merger provided for retention incentives for certain executives in the form of restricted stock grants that are tied to post-acquisition employment service. These shares were granted during the first quarter of 2020, and had an aggregate grant date fair value of $10.7 million which will be recognized as stock-based compensation over the requisite service period. The acquisition was financed with cash on hand.

The acquired identified intangible assets consisted of developed technology, client relationships, and trade names that were assigned estimated useful lives offive, nine and five years, respectively. Preliminary goodwill recognized of $49.3 million is primarily comprised of anticipated synergies from the expansion of our resident engagement platform. Goodwill and the acquired intangible assets are not deductible for tax purposes. Acquisition costs associated with this transaction totaled $0.6 million.

Purchase Consideration and Purchase Price Allocations

The estimated fair values of assets acquired and liabilities assumed are provisional and are based primarily on the information available as of the acquisition date. We believe this information provides a reasonable basis for estimating the fair values of assets acquired and liabilities assumed, but we are awaiting additional information necessary to finalize those values including the fair value of intangible assets acquired, analysis of in-process contracts and the related deferred revenue fair value analysis, and potential forgiveness of an assumed liability related to a loan obtained by Stratis prior to the acquisition under the Paycheck Protection Program of the Coronavirus, Aid, Relief and Economic Security Act (the “CARES Act”). Therefore, the provisional measurements of fair value are subject to change, and such changes could be significant. We expect to finalize the valuation of these assets and liabilities as soon as practicable, but no later than one year from the acquisition closing date. The components of the purchase consideration and the preliminary allocation of purchase price as of September 30, 2020 are as follows:

	Modern Message	Stratis	Chirp
		(in thousands)	
Fair value of purchase consideration:			
Cash, net of cash acquired	$ 62,749	$ 58,948	$ 11,248
Deferred obligations, net	1,998	5,802	1,202
Contingent consideration	—	—	4,300
Total fair value of purchase consideration	$ 64,747	$ 64,750	$ 16,750
Fair value of net assets acquired:			
Restricted cash	$ 3,248	$ —	$ —
Accounts receivable	1,222	2,727	44
Property, equipment, and software	—	900	—
Intangible assets:			
Developed product technologies	8,700	11,100	4,000
Client relationships	9,400	5,900	1,400
Trade names	700	100	—
Goodwill	49,337	50,477	12,098
Other assets	426	1,746	9
Accounts payable and accrued liabilities	(886)	(3,216)	(334)
Client deposits held in restricted accounts	(3,450)	—	—
Deferred revenue	(198)	(2,554)	—
Deferred tax liability, net	(3,752)	(2,430)	(467)
Total fair value of net assets acquired	$ 64,747	$ 64,750	$ 16,750

2019 Acquisitions

We completed five acquisitions during fiscal year 2019. For certain acquisitions in the table below, the estimated fair values of assets acquired and liabilities assumed are provisional. We expect to finalize the valuation of these assets and liabilities as soon as practicable, but no later than one year from the acquisition dates. The allocation of each purchase price, including effects of measurement period adjustments recorded as of September 30, 2020, is as follows:

		Date of Acquisition	Aggregate Purchase Price	Closing Cash Payment, Net of Cash Acquired	Net Tangible Assets Acquired (Liabilities Assumed)	Identified Intangible Assets	Goodwill Recognized
					(in thousands)		
LeaseTerm Solutions	(Final)	Apr 2019	$ 26,512	$ 23,417	$ 587	$ 7,300	$ 18,625
Hipercept	(Final)	Jul 2019	$ 28,353	$ 17,804	$ 149	$ 4,800	$ 23,404
Simple Bills	(Final)	Jul 2019	$ 18,149	$ 14,875	$ (724)	$ 9,300	$ 9,573
IMS	(Provisional)	Dec 2019	$ 55,738	$ 50,177	$ 25	$ 16,100	$ 39,613
Buildium	(Provisional)	Dec 2019	$ 569,645	$ 566,241	$ (14,119)	$ 113,000	$ 470,764

Deferred Obligations and Contingent Consideration Activity

The following table presents changes in the Company’s deferred cash and stock obligations and contingent consideration for the nine months ended September 30, 2020 and the year ended December 31, 2019:

	Deferred Cash and Stock Obligations	Contingent Consideration	Total
		(in thousands)	
Balance at January 1, 2019	$ 52,142	$ 6,000	$ 58,142
Additions, net of fair value discount	18,183	6,700	24,883
Cash payments	(25,215)	(5,963)	(31,178)
Settlements through common stock issued	(14,846)	—	(14,846)
Accretion expense	1,540	58	1,598
Change in fair value	—	(259)	(259)
Indemnification claims and other adjustments	(57)	—	(57)
Balance at December 31, 2019	31,747	6,536	38,283
Additions, net of fair value discount	9,002	4,300	13,302
Cash payments	(12,785)	—	(12,785)
Accretion expense	733	162	895
Change in fair value	—	(1,529)	(1,529)
Indemnification claims and other adjustments	(1,106)	—	(1,106)
Balance at September 30, 2020	$ 27,591	$ 9,469	$ 37,060

In May 2019, in connection with our April 2018 acquisitions of NovelPay, LLC (“NovelPay”) and ClickPay Services, Inc. (collectively with NovelPay, “ClickPay”), we issued an aggregate of 154,281 shares of our common stock to the equity holders of ClickPay. These shares were subject to a holdback with respect to indemnification adjustments pursuant to the acquisition agreements. In May 2020, these holdback claims were finalized, resulting in the retirement of 9,994 previously issued shares of our common stock.

In September 2019, we settled a deferred equity obligation with regard to our September 2018 acquisition of LeaseLabs, Inc. through the issuance of 80,012 shares of our common stock.

Pro Forma Results of Acquisitions

The following table presents unaudited pro forma results of operations for the three and nine months ended September 30, 2020 and 2019, as if the aforementioned 2020 and 2019 acquisitions had occurred as of January 1, 2019 and 2018, respectively. The pro forma information includes the business combination accounting effects resulting from these acquisitions, including interest expense, tax expense or benefit, and additional amortization resulting from the valuation of amortizable intangible assets. We prepared the pro forma financial information for the combined entities for comparative purposes only, and it is not indicative of what actual results would have been if the acquisitions had occurred at the beginning of the periods presented, or of future results.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020 Pro Forma	2019 Pro Forma	2020 Pro Forma	2019 Pro Forma
	(unaudited) (in thousands, except per share amounts)			
Total revenue	$ 299,330	$ 276,144	$ 865,682	$ 798,833
Net income (loss)	$ 15,912	$ (1,837)	$ 30,567	$ (753)
Net income (loss) per share:				
Basic	$ 0.16	$ (0.02)	$ 0.32	$ (0.01)
Diluted	$ 0.15	$ (0.02)	$ 0.31	$ (0.01)

4. Revenue Recognition

Disaggregation of Revenue

The following table presents our revenues disaggregated by major revenue source. Sales and usage-based taxes are excluded from revenues.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
	(in thousands)			
On demand				
Property management	$ 63,400	$ 52,591	$ 185,818	$ 153,511
Resident services	135,695	110,314	383,948	308,327
Leasing and marketing	49,945	45,757	144,581	136,831
Asset optimization	41,199	36,975	122,922	108,672
Total on demand revenue	290,239	245,637	837,269	707,341
Professional and other	7,910	9,565	23,160	26,028
Total revenue	$ 298,149	$ 255,202	$ 860,429	$ 733,369

On Demand Revenue

We generate the majority of our on demand revenue by licensing SaaS solutions to our clients on a subscription basis. Our SaaS solutions are provided pursuant to contractual commitments that typically include a promise that we will stand ready, on a monthly basis, to deliver access to our technology platform over defined service delivery periods. These solutions represent a series of distinct services that are substantially the same and have the same pattern of transfer to the client. Revenue from our SaaS solutions is generally recognized ratably over the term of the arrangement.

Consideration for our on demand subscription services consist of fixed, variable and usage-based fees. We invoice a portion of our fees at the initial order date and then monthly or annually thereafter. Subscription fees are generally fixed based on the number of sites and the level of services selected by the client.

We sell certain usage-based services, primarily within our property management, resident services and leasing and marketing solutions, to clients based on a fixed rate per transaction. Revenues are calculated based on the number of transactions processed monthly and will vary from month to month based on actual usage of these transaction-based services over the contract term, which is typically one year in duration. The fees for usage-based services are not associated with every distinct service promised in the series of distinct services we provide our clients. As a result, we allocate variable usage-based fees only to the related transactions and recognize them in the month that usage occurs.

As part of our resident services offerings, we offer risk mitigation services to our clients by acting as an insurance agent and we derive commission revenue from the sale of insurance products to our clients' residents. The commissions are based upon a percentage of the premium that the insurance company underwriting partners charge to the policyholder and are subject to forfeiture in instances where a policyholder cancels prior to the end of the policy. The overall insurance services we provide represent a single performance obligation that qualifies as a separate series. Our contracts with our underwriting partners also provide for contingent commissions to be paid to us in accordance with the agreements. The contingent commissions are not associated with every distinct service promised in the series of distinct insurance services we provide. We generally accrue and recognize contingent commissions monthly based on estimates of the variable factors identified in the terms of the applicable agreements.

Professional Services and Other Revenues

Professional services and other revenues generally consist of the fees we receive for providing implementation and consulting services, submeter equipment and ongoing maintenance of our existing on premise licenses.

Professional services revenues primarily consist of fees for implementation services, consulting services and training. Professional services are billed either on a fixed rate per hour (time) and materials basis or on a fixed price basis. Professional services are typically sold bundled in a contract with other on demand solutions but may be sold separately. For bundled arrangements, we allocate the transaction price to separate services based on their relative standalone selling prices if a service is separately identifiable from other items in the bundled arrangement and if a client can benefit from it on its own or with other resources readily available to the client.

Other revenues consist of submeter equipment sales that include related installation services, sales of other equipment and on premise software sales. Submeter hardware and installation services are considered to be part of a single performance obligation due to the significance of the integration and interdependency of the installation services with the meter equipment. Our typical payment terms for submeter installations require a percentage of the overall transaction price to be paid up-front, with the remainder billed as progress payments. We recognize submeter revenue in proportion to the number of fully installed units completed to date as compared to the total contracted number of units to be provided and installed. For all other equipment sales, we generally recognize revenue when control of the hardware has transferred to our client, which occurs at a point in time, typically upon delivery to the client.

The majority of on premise revenue consists of maintenance renewals from clients who renew for an additional one-year term. Maintenance renewal revenue is recognized ratably over the service period based upon the standalone selling price of that service obligation.

Contract Balances

Contract assets generally consist of amounts recognized as revenue before they can be invoiced to clients or amounts invoiced to clients prior to the period in which the service is provided where the right to payment is subject to conditions other than just the passage of time. These contract assets are included in “Accounts receivable” in the accompanying Condensed Consolidated Financial Statements and related disclosures. Contract liabilities are comprised of billings or payments received from our clients in advance of performance under the contract. We refer to these contract liabilities as “Deferred revenue” in the accompanying Condensed Consolidated Financial Statements and related disclosures. We recognized revenue of $122.0 million for the nine months ended September 30, 2020, which was included in the line “Deferred revenue” in the accompanying Condensed Consolidated Balance Sheet as of the beginning of the period.

Contract Acquisition Costs

We capitalize certain commissions as incremental costs of obtaining a contract with a client if we expect to recover those costs.The commissions are capitalized and amortized over a period of benefit determined to be three years. Below is a summary of our capitalized commissions costs and their respective locations in the accompanying Condensed Consolidated Balance Sheets:

	Balance Sheet Location	September 30, 2020	December 31, 2019
		(in thousands)	
Capitalized commissions costs — current	Other current assets	$ 11,175	$ 9,870
Capitalized commissions costs — noncurrent	Other assets	9,857	8,463
Total capitalized commissions costs		$ 21,032	$ 18,333

Amortization of capitalized commissions was $3.1 million and $2.3 million for the three months ended September 30, 2020 and 2019, respectively, and $8.8 million and $6.1 million for the nine months ended September 30, 2020 and 2019, respectively.No impairment loss was recognized in relation to these capitalized costs.

Remaining Performance Obligations

Certain clients commit to purchase our solutions for terms ranging from two to seven years.We expect to recognize approximately $478.3 million of revenue in the future related to performance obligations for on demand contracts with an original duration greater than one year that were unsatisfied or partially unsatisfied as of September 30, 2020. Our estimate does not include amounts related to:

- professional and usage-based services that are billed and recognized based on services performed in a certain period;
- amounts attributable to unexercised contract renewals that represent a material right; or
- amounts attributable to unexercised client options to purchase services that do not represent a material right.

We expect to recognize revenue on approximately 72.0% of the remaining performance obligations over the next 24 months, with the remainder recognized thereafter. Revenue from remaining performance obligations for professional service contracts as of September 30, 2020 was immaterial.

5. Property, Equipment, and Software

Property, equipment, and software consisted of the following at September 30, 2020 and December 31, 2019:

	September 30, 2020	December 31, 2019
	(in thousands)	
Leasehold improvements	$ 70,863	$ 70,558
Data processing and communications equipment	89,920	77,358
Furniture, fixtures, and other equipment	39,299	35,856
Software	188,082	157,832
Property, equipment, and software, gross	388,164	341,604
Less: Accumulated depreciation and amortization	(211,170)	(178,322)
Property, equipment, and software, net	$ 176,994	$ 163,282

Depreciation and amortization expense for property, equipment, and purchased software was $8.2 million and $7.5 million for the three months ended, and $23.2 million and $22.7 million for the nine months ended September 30, 2020 and 2019, respectively.

The unamortized amount of capitalized software development costs was $76.3 million and $66.5 million at September 30, 2020 and December 31, 2019, respectively. Amortization expense related to capitalized software development costs totaled $4.7 million and $3.9 million for the three months ended, and $12.9 million and $10.9 million for the nine months ended September 30, 2020 and 2019, respectively.

6. Leases

Our leases are primarily comprised of real estate leases of office facilities and equipment under operating leases that expire on various dates through 2033. In May 2015, we entered into a lease agreement for office space located in Richardson, Texas to serve as our corporate headquarters and data center. The lease, which is classified as a finance lease, is for a term of twelve years, beginning in 2016, and includes optional extension periods. The lease agreement contains provisions for rent escalations over the term of the lease and leasehold improvement incentives.

The components of lease costs for the three and nine months ended September 30, 2020 and 2019 were as follows:

	Three Months Ended September 30, 2020	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2020	Nine Months Ended September 30, 2019
	(in thousands)			
Operating lease cost	$ 4,063	$ 3,469	$ 12,737	$ 10,431
Finance lease cost:				
Depreciation of finance lease asset	$ 992	$ 992	$ 2,977	$ 2,977
Interest on lease liabilities	1,019	1,062	3,067	3,169
Total finance lease cost	$ 2,011	$ 2,054	$ 6,044	$ 6,146

Rent expense for short-term leases for the three and nine months ended September 30, 2020 and 2019 was not material.

Supplemental balance sheet information related to leases at September 30, 2020, was as follows:

	Operating Leases	Finance Leases	Total Leases
	(in thousands, except lease term and discount rate)		
Right-of-use assets	$ 62,293	$ 51,264	$ 113,557
Lease liabilities, current (1)	$ 13,689	$ 3,554	$ 17,243
Lease liabilities, net of current portion	53,726	70,726	124,452
Total lease liabilities	$ 67,415	$ 74,280	$ 141,695
Weighted average remaining term (in years)	5.4	12.9	
Weighted average discount rate	4.8 %	5.4 %	

(1) Included in the line “Accrued expenses and other current liabilities” in the accompanying Condensed Consolidated Balance Sheets.

Supplemental balance sheet information related to leases at December 31, 2019, was as follows:

	Operating Leases	Finance Leases	Total Leases
	(in thousands, except lease term and discount rate)		
Right-of-use assets	$ 67,700	$ 54,241	$ 121,941
Lease liabilities, current (1)	$ 12,873	$ 3,254	$ 16,127
Lease liabilities, net of current portion	59,822	73,491	133,313
Total lease liabilities	$ 72,695	$ 76,745	$ 149,440
Weighted average remaining term (in years)	6.1	13.7	
Weighted average discount rate	4.8 %	5.4 %	

(1) Included in the line “Accrued expenses and other current liabilities” in the accompanying Condensed Consolidated Balance Sheets.

Supplemental cash flow information related to leases for the nine months ended September 30, 2020 and 2019 was as follows, in thousands:

	Nine Months Ended September 30, 2020	Nine Months Ended September 30, 2019
Cash payments for lease liabilities within operating activities:		
Operating leases	$ 13,323	$ 11,488
Finance leases	$ 3,067	$ 3,169

At September 30, 2020, future maturities of lease liabilities due under these lease agreements were as follows for the years ending December 31, in thousands:

	Operating Leases	Finance Leases	Total Leases
2020	$ 3,969	$ 1,288	$ 5,257
2021	16,730	7,504	24,234
2022	14,764	7,609	22,373
2023	11,031	7,714	18,745
2024	11,031	7,819	18,850
Thereafter	19,491	72,214	91,705
Total undiscounted lease payments	77,016	104,148	181,164
Present value adjustment	(9,601)	(29,868)	(39,469)
Present value of lease payments	$ 67,415	$ 74,280	$ 141,695

7. Goodwill and Intangible Assets

Changes in the carrying amount of goodwill during the nine months ended September 30, 2020 were as follows, in thousands:

Balance as of January 1, 2020	$ 1,611,749
Goodwill acquired	111,843
Measurement period adjustments	2,280
Balance as of September 30, 2020	$ 1,725,872

Identified intangible assets consisted of the following at September 30, 2020 and December 31, 2019:

	September 30, 2020			December 31, 2019		
	Carrying Amount	Accumulated Amortization	Net	Carrying Amount	Accumulated Amortization	Net
	(in thousands)					
Finite-lived intangible assets:						
Developed technologies	$ 301,474	$ (155,972)	$ 145,502	$ 277,030	$ (125,537)	$ 151,493
Client relationships	357,138	(170,695)	186,443	341,438	(140,044)	201,394
Trade names	26,357	(18,609)	7,748	25,557	(16,928)	8,629
Non-compete agreements	5,273	(2,956)	2,317	5,273	(2,186)	3,087
Total finite-lived intangible assets	690,242	(348,232)	342,010	649,298	(284,695)	364,603
Indefinite-lived intangible assets:						
Trade names	8,390	—	8,390	8,393	—	8,393
Total intangible assets	$ 698,632	$ (348,232)	$ 350,400	$ 657,691	$ (284,695)	$ 372,996

Amortization expense related to finite-lived intangible assets was $20.8 million and $16.9 million for the three months ended, and $63.5 million and $49.5 million for the nine months ended September 30, 2020 and 2019, respectively.

8. Debt

Credit Facility

On September 5, 2019, we entered into a $1.2 billion Amended and Restated Credit Agreement (the "Amended Credit Facility") to amend and restate our previous credit facility, originally dated as of September 30, 2014 (as previously amended, the "2014 Credit Facility"). The Amended Credit Facility was entered into by and among the Company, the lenders from time to time party thereto (the "Lenders"), and Wells Fargo Bank, National Association, as administrative agent (the "Agent").

The Amended Credit Facility extends the maturity date of the 2014 Credit Facility from February 27, 2022 to September 5, 2024 (subject to early maturity provisions in certain circumstances, as described below), reduces our borrowing costs, provides additional borrowing capacity, and increases covenant flexibility. The Amended Credit Facility provides for the following:

Revolving Facility: The Amended Credit Facility provides $600.0 million in aggregate commitments for secured revolving loans, with sublimits of $10.0 million for the issuance of letters of credit and $20.0 million for swingline loans ("Revolving Facility"). During the second quarter of 2020, we repaid the previous amount outstanding under the Revolving Facility.

Initial Term Loan: An initial term loan of $300.0 million was borrowed on the closing date for the Amended Credit Facility (the "Term Loan"). The proceeds of the Term Loan were used to repay the term loan balances outstanding under the 2014 Credit Facility.

Delayed Draw Term Loan: In December 2019, we drew funds of $300.0 million available under the delayed draw term loan ("Delayed Draw Term Loan").

Revolving loans under the Amended Credit Facility may be voluntarily prepaid and re-borrowed. Principal payments on the Term Loan and Delayed Draw Term Loan (collectively, the "Term Loans") are due in quarterly installments equal to an initial amount of $3.8 million, which increases to $7.5 million beginning on December 31, 2020, increases to $11.3 million beginning on December 31, 2022, and increases to $15.0 million beginning on December 31, 2023. Once repaid or prepaid, the Term Loans may not be re-borrowed. All outstanding principal and accrued but unpaid interest is due, and the commitments for the Revolving Facility terminate, on the maturity date. The Term Loans are subject to mandatory repayment requirements in the event of certain asset sales or if certain insurance or condemnation events occur, subject to customary reinvestment provisions. We may prepay the Term Loans in whole or in part at any time without premium or penalty.

Accordion Feature: The Amended Credit Facility also allows us, subject to certain conditions, to request additional term loan commitments and/or additional revolving commitments in an aggregate principal amount of up to the greater of $250.0 million or 100% of consolidated EBITDA (as defined within the Amended Credit Facility) for the most recent four fiscal quarters, plus an amount that would not cause our Senior Leverage Ratio, as defined below, to exceed 3.50 to 1.00.

All outstanding revolving loans and term loans under the Amended Credit Facility mature on September 5, 2024. If on or prior to August 16, 2022, we have failed to demonstrate to the Agent that we would be in compliance with each financial covenant after giving pro forma effect to the repayment in full of the 2022 Convertible Notes which mature on November 15, 2022, then the Amended Credit Facility will mature on August 16, 2022. In addition, if on any business day during the period beginning on August 16, 2022 until the 2022 Convertible Notes are paid in full, our available liquidity is less than an amount equal to 125% of the outstanding principal amount of the 2022 Convertible Notes, then amounts outstanding under the Amended Credit Facility are due the next business day.

At our option, amounts outstanding under the Amended Credit Facility accrue interest at a per annum rate equal to either LIBOR, plus a margin ranging from 1.00% to 2.00%, or the Base Rate, plus a margin ranging from 0.00% to 1.00% ("Applicable Margin"). The base LIBOR is, at our discretion, equal to either one, three, or six month LIBOR. The Base Rate is defined as the greater of Wells Fargo's prime rate, the Federal Funds Rate plus 0.50%, or one month LIBOR plus 1.00%. In each case, the Applicable Margin is determined based upon our Net Leverage Ratio, as defined below. Accrued interest on amounts outstanding under the Amended Credit Facility is due and payable quarterly, in arrears, for loans bearing interest at the Base Rate and at the end of the applicable interest period in the case of loans bearing interest at the adjusted LIBOR. Unused commitments under the Revolving Facility are subject to a commitment fee to be paid in arrears on the last day of each fiscal quarter, ranging from 0.15% to 0.35% per annum determined based on our Net Leverage Ratio, as defined below.

Certain of our existing and future material domestic subsidiaries are required to guarantee our obligations under the Amended Credit Facility, and the obligations under the Amended Credit Facility are secured by substantially all of our assets and the assets of the subsidiary guarantors. The Amended Credit Facility contains customary affirmative and negative covenants. The negative covenants limit our and our subsidiaries' ability to, among other things, incur additional indebtedness, grant liens on our assets, make investments including acquisitions, dispose of assets, or pay dividends or distributions or repurchase our stock, subject in each case to customary exceptions and qualifications. Our covenants also include requirements that we comply with the following financial ratios:

Consolidated Net Leverage Ratio: The Consolidated Net Leverage Ratio ("Net Leverage Ratio"), defined as a ratio of consolidated funded indebtedness less qualified cash and cash equivalents, each as defined in the Amended Credit Facility, on the last day of each fiscal quarter to the sum of the four previous consecutive fiscal quarters' consolidated EBITDA, as defined in the Amended Credit Facility, of no greater than 5.00 to 1.00 (or, at our election following certain material acquisitions,5.50 to 1.00).

Consolidated Interest Coverage Ratio: The Consolidated Interest Coverage Ratio ("Interest Coverage Ratio"), defined as a ratio of the sum of the four previous fiscal quarters' consolidated EBITDA to our interest expense for the same period, excluding non-cash interest attributable to the Convertible Notes, as defined below, of no less than 3.00 to 1.00.

Consolidated Senior Secured Net Leverage Ratio: The Consolidated Senior Secured Net Leverage Ratio ("Senior Leverage Ratio"), defined as a ratio of consolidated senior secured indebtedness less qualified cash and cash equivalents, each as defined in the Amended Credit Facility, on the last day of each fiscal quarter to the sum of the four previous consecutive fiscal quarters' consolidated EBITDA, of no greater than 3.75 to 1.00 (or, at our election following certain material acquisitions,4.25 to 1.00).

As of September 30, 2020, we were in compliance with the covenants under our Amended Credit Facility.

The Amended Credit Facility contains customary events of default, subject to customary cure periods for certain defaults. In the event of a default, the obligations under the Amended Credit Facility could be accelerated, the applicable interest rate could be increased, the loan commitments could be terminated, our subsidiary guarantors could be required to pay the obligations in full and our lenders would be permitted to exercise remedies with respect to all of the collateral that is securing the Amended Credit Facility. Any such default that is not cured or waived could have a material adverse effect on our liquidity and financial condition.

As of September 30, 2020 and December 31, 2019, we had $600.0 million and $370.0 million, respectively, of available credit under our Revolving Facility. Principal outstanding for the Revolving Facility was $230.0 million as of December 31, 2019. There was no principal outstanding as of September 30, 2020. We incur commitment fees on the unused portion of the Revolving Facility. The carrying value of the Revolving Facility approximates its fair value.

Unamortized debt issuance costs for the revolving facility were $2.3 million and $2.7 million at September 30, 2020 and December 31, 2019, respectively, and are included in the line "Other assets" in the Condensed Consolidated Balance Sheets.

Principal outstanding and unamortized debt issuance and discount costs for the Term Loans were as follows at September 30, 2020 and December 31, 2019:

	September 30, 2020	December 31, 2019
	Term Loans	
	(in thousands)	
Principal outstanding	$ 585,000	$ 596,250
Unamortized issuance costs	(775)	(942)
Unamortized discount	(1,024)	(1,245)
Carrying value	$ 583,201	$ 594,063

The fair value of the Term Loans on September 30, 2020 and December 31, 2019 was $536.4 million and $582.7 million, respectively. The fair value was estimated by discounting future cash flows using prevailing market interest rates on debt with similar creditworthiness, terms, and maturities. We concluded that this fair value measurement should be categorized within Level 2.

Future maturities of principal under the Term Loans are as follows for the years ending December 31, in thousands:

	Term Loans
2020	$ 7,500
2021	30,000
2022	33,750
2023	48,750
2024	465,000
Total principal payments	$ 585,000

Convertible Notes

2025 Convertible Notes

In May 2020, we issued convertible senior notes in an aggregate principal amount of $345.0 million (including the underwriters' exercise in full of their over-allotment option of $45.0 million) which will mature on May 15, 2025 (the "2025 Convertible Notes"). The 2025 Convertible Notes were issued pursuant to an Indenture, dated May 22, 2020, by and between us and U.S. Bank National Association, as Trustee, as supplemented by the First Supplemental Indenture (as supplemented, the "Indenture"). We received net proceeds from the offering of approximately $337.5 million after adjusting for debt issuance costs, including the underwriting discount.

The 2025 Convertible Notes accrue interest at a rate of 1.50% per year until maturity, payable semi-annually in arrears on May 15 and November 15 of each year, beginning on November 15, 2020. On or after February 15, 2025, until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert at their option all or any portion of their 2025 Convertible Notes at the then applicable conversation rate. The 2025 Convertible Notes are convertible at an initial rate of 13.04 shares of our common stock per $1,000 principal amount of 2025 Convertible Notes (equivalent to an initial conversion price of approximately $76.70 per share of our common stock). The conversion rate is subject to customary adjustments for certain events as described in the Indenture. Upon conversion, we will pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election. Upon any conversion of the 2025 Convertible Notes, it is our current intent to settle the first $1,000 of conversion value for each $1,000 principal amount of the 2025 Convertible Notes through combination settlement, which involves repayment of the principal portion in cash and any excess of the conversion value over the principal amount in shares of our common stock. As of September 30, 2020, the if-converted value of the 2025 Convertible Notes did not exceed the aggregate principal.

Holders may convert all or any portion of their 2025 Convertible Notes, at their option, prior to the close of business on the business day immediately preceding February 15, 2025 only under the following circumstances:

- during any calendar quarter commencing after the calendar quarter ending on September 30, 2020 (and only during such calendar quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;
- during the five business day period after any five consecutive trading day period (the "Measurement Period") in which the trading price per $1,000 principal amount of the 2025 Convertible Notes for each trading day of the Measurement Period was less than 98% of the product of the last reported sales price of our common stock and the conversion rate on each such trading day;
- if we call any or all of the 2025 Convertible Notes for redemption at any time prior to the close of business on the second scheduled trading day immediately preceding the redemption date; or
- upon the occurrence of specified corporate events, as described in the Indenture.

On or after May 20, 2023, we may redeem for cash, at our option, all or part of the 2025 Convertible Notes if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which we provide notice of redemption, is greater than or equal to 130% of the conversion price on each applicable trading day. There is no sinking fund provided for the 2025 Convertible Notes.

If we undergo a fundamental change (as defined in the Indenture), subject to certain conditions, holders may require us to repurchase for cash all or any portion of their 2025 Convertible Notes. The fundamental change repurchase price is equal to 100% of the principal amount of the 2025 Convertible Notes to be repurchased, plus accrued and unpaid interest to, but excluding, the fundamental change repurchase date. If holders elect to convert their 2025 Convertible Notes in connection with a make-whole fundamental change, as described in the Indenture, we will, to the extent provided in the Indenture, increase the conversion rate applicable to the 2025 Convertible Notes.

The 2025 Convertible Notes are senior unsecured obligations and rank senior in right of payment to any of our indebtedness that is expressly subordinated in right of payment to the 2025 Convertible Notes and equal in right of payment to any of our existing and future unsecured indebtedness that is not subordinated including the 2022 Convertible Notes (as defined below). The 2025 Convertible Notes are effectively junior in right of payment to any of our secured indebtedness to the extent of the value of assets securing such indebtedness and structurally junior to all existing and future indebtedness and other liabilities, including trade payables, of our subsidiaries. The Indenture does not limit the amount of debt that we or our subsidiaries may incur. The 2025 Convertible Notes are not guaranteed by any of our subsidiaries.

The Indenture does not contain any financial or operating covenants or restrictions on the payment of dividends, the incurrence of indebtedness, or the issuance or repurchase of securities by us or any of our subsidiaries. The Indenture contains customary events of default with respect to the 2025 Convertible Notes and provides that upon certain events of default occurring and continuing, the Trustee may, and the Trustee at the request of holders of at least 25% in principal amount of the 2025 Convertible Notes shall, declare all of principal and accrued and unpaid interest, if any, of the 2025 Convertible Notes to be due and payable. In case of certain events of bankruptcy, insolvency or reorganization involving us or a significant subsidiary, all of the principal of and accrued and unpaid interest on the 2025 Convertible Notes will automatically become due and payable.

In accounting for the issuance of the 2025 Convertible Notes, we separated the 2025 Convertible Notes into liability and equity components. We allocated $288.0 million of the 2025 Convertible Notes to the liability component, and $57.0 million to the equity component. The portion allocated to equity is presented in stockholders' equity net of $3.9 million of related deferred taxes and of allocated issuance cost as described below. The excess of the principal amount of the liability component over its carrying amount is amortized to interest expense over the term of the 2025 Convertible Notes using the effective interest method. The equity component will not be remeasured as long as it continues to meet the conditions for equity classification.

We incurred issuance costs of $7.5 million related to the 2025 Convertible Notes. Issuance costs were allocated to the liability and equity components based on their relative values. Issuance costs attributable to the liability component are being amortized to interest expense over the term of the 2025 Convertible Notes, and issuance costs attributable to the equity component are included along with the equity component in stockholders' equity.

2022 Convertible Notes

In May 2017, we issued convertible senior notes with an aggregate principal amount of $345.0 million which mature on November 15, 2022 (the "2022 Convertible Notes"). The 2022 Convertible Notes accrue interest at a rate of 1.50%, payable semi-annually on May 15 and November 15 of each year. The 2022 Convertible Notes are convertible at an initial rate of 23.84 shares per $1,000 of principal (equivalent to an initial conversion price of approximately $41.95 per share of our common stock). Based on our closing stock price of $57.64 per share on September 30, 2020, the if-converted value exceeded the aggregate principal amount of the 2022 Convertible Notes by $129.1 million.

During the third quarter of 2020, the closing price of our common stock exceeded 130% of the conversion price of the 2022 Convertible Notes for more than 20 trading days during the last 30 consecutive trading days of the quarter, thereby satisfying one of the early conversion events. As a result, the 2022 Convertible Notes are convertible at any time during the fourth quarter of 2020. Accordingly, as of September 30, 2020, the carrying amount of the 2022 Convertible Notes of $314.9 million was classified as a current liability in the accompanying Condensed Consolidated Balance Sheets.

There have been no significant changes to the terms of the 2022 Convertible Notes disclosed in our Annual Report on Form 10-K.

The net carrying amount of our 2022 and 2025 Convertible Notes (collectively referred to as the "Convertible Notes") at September 30, 2020 and December 31, 2019, were as follows:

	September 30, 2020		December 31, 2019
	2022 Convertible Notes	2025 Convertible Notes	2022 Convertible Notes
		(in thousands)	
Liability component:			
Principal amount	$ 344,995	$ 345,000	$ 344,995
Unamortized discount	(26,646)	(53,651)	(35,287)
Unamortized debt issuance costs	(3,414)	(5,887)	(4,520)
Convertible notes, net	$ 314,935	$ 285,462	$ 305,188
Equity component, net of issuance costs and deferred tax:	$ 61,390	$ 51,821	$ 61,390

The estimated fair values of the 2022 and 2025 Convertible Notes at September 30, 2020 were $509.9 million and $359.2 million, respectively. The estimated fair value of the 2022 Convertible Notes at December 31, 2019 was $486.7 million. The estimated fair values are based on quoted market prices as of the last trading day for each reporting period; however, the Convertible Notes have only a limited trading volume and, as such, the fair value estimates are not necessarily the value at which the Convertible Notes could be retired or transferred. We concluded these measurements should be classified within Level 2.

The following table sets forth total interest expense related to the Convertible Notes for the three and nine months ended September 30, 2020 and 2019:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
	(in thousands)			
Contractual interest expense	$ 2,587	$ 1,294	$ 5,736	$ 3,881
Amortization of debt discount	4,969	2,756	11,990	8,149
Amortization of debt issuance costs	675	353	1,517	1,043
	$ 8,231	$ 4,403	$ 19,243	$ 13,073

The effective interest rate of the liability component for the three and nine-month periods ended September 30, 2020 and 2019 was 5.87% for the 2022 Convertible Notes and 5.74% for the 2025 Convertible Notes, respectively.

Capped Calls, Note Hedges, and Warrants

On May 22, 2020, we entered into privately negotiated option contracts to purchase hedge instruments (the "Capped Calls") initially covering approximately 5.8 million shares of our common stock at a cost of $39.4 million. The Capped Calls are subject to anti-dilution provisions substantially similar to those of the 2025 Convertible Notes, have a strike price of approximately $76.70 per share, are subject to a cap price of $118.00 per share, are exercisable by us upon any conversion under the 2025 Convertible Notes, and expire on May 15, 2025. The Capped Calls are transactions that are separate from the terms of the 2025 Convertible Notes, and holders of the 2025 Convertible Notes have no rights with respect to the Capped Calls.

On May 23, 2017, we entered into privately negotiated transactions to purchase hedge instruments ("Note Hedges"), covering approximately 8.2 million shares of our common stock at a cost of $62.5 million. The Note Hedges are subject to anti-dilution provisions substantially similar to those of the 2022 Convertible Notes, have a strike price of approximately $41.95 per share, are exercisable by us upon any conversion under the 2022 Convertible Notes, and expire on November 15, 2022.

The Capped Calls and Note Hedges (collectively referred to as the "Note Hedge Instruments") are generally expected to reduce the potential dilution to our common stock (or, in the event the conversion is settled in cash, to reduce our cash payment obligation) in the event that at the time of conversion our stock price exceeds the conversion price under our previously issued Convertible Notes. The costs of the Note Hedge Instruments are expected to be tax deductible as original issue discounts over the lives of the respective convertible notes, as the Note Hedge Instruments represent integrated debt instruments for tax purposes. As the Note Hedge Instruments meet certain accounting criteria, they are recorded in stockholders' equity as a reduction of additional paid-in-capital and are not accounted for as derivatives. The fair value of the Note Hedge Instruments are not remeasured each reporting period.

On May 23, 2017, we also sold warrants for the purchase of up to 8.2 million shares of our common stock for aggregate proceeds of $31.5 million ("Warrants"). The Warrants have a strike price of $57.58 per share and are subject to customary anti-dilution provisions. The Warrants will expire in ratable portions on a series of expiration dates commencing on February 15, 2023. The proceeds from the issuance of the Warrants were recorded as an increase to our additional paid-in capital in the accompanying Condensed Consolidated Financial Statements.

The Note Hedges are transactions that are separate from the terms of the 2022 Convertible Notes and the Warrants, and holders of the 2022 Convertible Notes and the Warrants have no rights with respect to the Note Hedges. The Warrants are similarly separate in both terms and rights from the Note Hedges and the 2022 Convertible Notes.

9. Stock-based Expense

On June 3, 2020, our stockholders approved the 2020 Equity Incentive Plan ("2020 Plan"). The 2020 Plan provides for the grant of incentive stock options, non-qualified stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares. The 2020 Plan replaced our 2010 Equity Incentive Plan (the "2010 Plan"), and no further awards will be made under the 2010 Plan after the effective date of the 2020 Plan. Additionally, any awards that expire or are forfeited under the 2010 Plan become available for issuance under the 2020 Plan.

Restricted Stock Awards

During the three months ended September 30, 2020, we granted 22,724 time-based restricted stock awards with a grant date weighted average fair value of $62.46 per share. During the nine months ended September 30, 2020, we granted 996,497 time-based restricted stock awards with a grant date weighted average fair value of $61.13. These awards generally vest ratably over a period of twelve quarters with the first vesting on the first day of the second calendar quarter immediately following the grant date. A portion of these grants are associated with the Modern Message acquisition and vest5% each quarter over a period of eleven quarters with the first vesting on the first day of the second calendar quarter immediately following the grant date and with the remaining shares vesting during the twelfth quarter.

Market-based Restricted Stock Awards

During the three and nine months ended September 30, 2020, we made grants of restricted stock that become eligible to vest based on the achievement of certain market-based conditions. The aggregate grant date fair value of these awards was $14.0 million. Prior to July 1, 2023, four separate tranches of restricted stock within each grant become Eligible Shares if the average closing price of our common stock equals or exceeds the associated triggers for those tranches for a period of twenty consecutive trading days:

Grant Date	Awards Granted	Stock Price Trigger Range
March 2020	439,624	$73.60 - $105.98
August 2020	18,908	$82.65 - $119.02

Shares that become Eligible Shares vest ratably over four calendar quarters, with the first vesting on the first day of the quarter immediately after becoming Eligible Shares. Vesting is conditional upon the recipient remaining a service provider, as defined in the plan document, to the Company through each applicable vesting date.

We capitalized stock-based expense for software development costs of $0.4 million and $1.3 million during the three and nine months ended September 30, 2020, respectively.

10. Commitments and Contingencies

Guarantor Arrangements

We have agreements whereby we indemnify our officers and directors for certain events or occurrences while the officer or director is or was serving at our request in such capacity. The term of the indemnification period is for the officer or director's lifetime. The maximum potential amount of future payments we could be required to make under these indemnification agreements is unlimited; however, we have a director and officer insurance policy that limits our exposure and enables us to recover a portion of any future amounts paid. As a result of our insurance policy coverage, we believe the estimated fair value of these indemnification agreements is minimal. Accordingly, we had no liabilities recorded for these agreements as of September 30, 2020 or December 31, 2019.

In the ordinary course of our business, we include standard indemnification provisions in our agreements with clients. Pursuant to these provisions, we indemnify our clients for losses suffered or incurred in connection with third-party claims that our products infringed upon any U.S. patent, copyright, trademark, or other intellectual property right. Where applicable, we generally limit such infringement indemnities to those claims directed solely to our products and not in combination with other software or products. With respect to our products, we also generally reserve the right to resolve any such claims by designing a non-infringing alternative, by obtaining a license on reasonable terms, or by terminating our relationship with the client and refunding the client's fees.

The potential amount of future payments to defend lawsuits or settle indemnified claims under these indemnification provisions is unlimited in certain agreements; however, we believe the estimated fair value of these indemnification provisions is minimal, and, accordingly, we had no liabilities recorded for these agreements as of September 30, 2020 or December 31, 2019.

Litigation

From time to time, in the normal course of our business, we are a party to litigation matters and claims, including purported class action lawsuits and other complex litigation matters. Such matters can be expensive and disruptive to our normal business operations. Moreover, the results of such proceedings are difficult to predict, and our view of these matters may change in the future as the litigation and events related thereto unfold. We expense legal fees as incurred. Insurance recoveries associated with legal costs incurred are recorded when they are deemed probable of recovery.

At September 30, 2020 and December 31, 2019, we had accrued amounts for estimated settlement losses related to certain legal matters. We do not believe there is a reasonable possibility that a material loss exceeding amounts already recognized may have been incurred as of the date of the balance sheets presented herein. We are involved in other litigation matters, including purported class action lawsuits, that are not likely to be material either individually or in the aggregate based on information available at this time.

11. Net Income per Share

Basic net income per share is computed by dividing net income by the weighted average number of common shares outstanding during the period. Diluted net income per share is computed by using the weighted average number of common shares outstanding, after giving effect to all potential dilutive common shares outstanding during the period. Included within diluted net income per share is the dilutive effect of outstanding stock options and restricted stock using the treasury stock method. Weighted average shares from common share equivalents in the amount of approximately 8,000 and 19,000 for the three months ended, and179,000 and 188,000 for the nine months ended September 30, 2020 and 2019, respectively, were excluded from the dilutive shares outstanding because their effect was anti-dilutive.

For purposes of considering the Convertible Notes in determining diluted net income per share, it is our current intent to settle conversions of the Convertible Notes through combination settlement, which involves repayment of the principal portion in cash and any excess of the conversion value over the principal amount (the "conversion premium") in shares of our common stock. Therefore, only the impact of the conversion premium is included in total dilutive weighted average shares outstanding using the treasury stock method. The dilutive effects of the conversion premium for the three and nine months ended September 30, 2020 and 2019 are shown in the table below.

The Warrants sold in connection with the issuance of the 2022 Convertible Notes are considered to be dilutive when the average price of our common stock during the period exceeds the Warrants' strike price of $57.58 per share, as described in Note 8 of these Condensed Consolidated Financial Statements. The effect of the additional shares that may be issued upon exercise of the Warrants is included in total dilutive weighted average shares outstanding using the treasury stock method and, to the extent dilutive, is shown in the table below. The Note Hedge Instruments purchased in connection with the issuance of the Convertible Notes are considered to be anti-dilutive and therefore do not impact our calculation of diluted net income per share. Refer to Note 8 of these Condensed Consolidated Financial Statements for further discussion regarding the Convertible Notes.

We exclude common shares subject to a holdback pursuant to business combinations from the calculation of basic weighted average shares outstanding where the release of such shares is contingent upon an event not solely subject to the passage of time. During the third quarter of 2020, approximately 6,000 previously contingently returnable shares related to our acquisition of BluTrend were issued upon settlement of sellers' indemnification obligations and included in basic weighted average shares outstanding. There were approximately 163,000 contingently returnable shares as of September 30, 2019 related to our acquisitions of ClickPay and BluTrend. Dilutive common shares outstanding include the weighted average contingently returnable shares discussed above that are subject to a holdback, and any contingently returnable shares prior to their release during each period.

Certain of our performance-based restricted stock awards are considered contingently issuable shares and are excluded from the diluted weighted average shares outstanding computation because the related performance-based targets were not achieved as of the end of the reporting period.

The following table presents the calculation of basic and diluted net income per share:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
	(in thousands, except per share amounts)			
Numerator:				
Net income	$ 16,341	$ 11,704	$ 33,247	$ 38,039
Denominator:				
Basic:				
Weighted average common shares used in computing basic net income per share	99,334	92,239	95,926	91,884
Diluted:				
Add weighted average effect of dilutive securities:				
Stock options and restricted stock	838	1,337	947	1,420
Convertible Notes and Warrants	3,208	3,380	2,951	2,844
Contingently issuable or returnable shares in connection with our acquisitions	5	158	74	244
Weighted average common shares used in computing diluted net income per share	103,385	97,114	99,898	96,392
Net income per share:				
Basic	$ 0.16	$ 0.13	$ 0.35	$ 0.41
Diluted	$ 0.16	$ 0.12	$ 0.33	$ 0.39

12. Income Taxes

We make estimates and judgments in determining our provision for income taxes for financial statement purposes. These estimates and judgments occur in the calculation of certain tax assets and liabilities that arise from differences in the timing of recognition of revenue and expense for tax and financial statement purposes.

Our provision for income taxes in interim periods is based on our estimated annual effective tax rate. We record cumulative adjustments in the quarter in which a change in the estimated annual effective rate is determined. The estimated annual effective tax rate calculation does not include the effect of discrete events that may occur during the year. The effect of these events, if any, is recorded in the quarter in which the event occurs.

Our effective income tax rate was9.3% and 17.4% for the nine months ended September 30, 2020 and 2019, respectively. Our effective rate is lower than the statutory rate for the nine months ended September 30, 2020 primarily due to $5.4 million of excess tax benefits from stock-based compensation recognized as discrete items as required by ASU 2016-09.

Our effective rate was lower than the statutory rate for the nine months ended September 30, 2019, primarily due to $1.6 million of excess tax benefits from stock-based compensation recognized as discrete items as required by ASU 2016-09, partially offset by state taxes and certain non-deductible expenses.

13. Fair Value Measurements

Assets and liabilities measured at fair value on a recurring basis:

Interest rate swap agreements: The fair value of our interest rate derivatives is determined using widely accepted valuation techniques including discounted cash flow analysis on the expected cash flows of the derivatives. This analysis reflects the contractual terms of the derivatives, including the period to maturity, and uses observable market-based inputs, including interest rate curves. We incorporate credit valuation adjustments to appropriately reflect both our own nonperformance risk and the respective counterparty's nonperformance risk in the fair value measurements.

Although the credit valuation adjustments associated with our derivatives utilize Level 3 inputs, such as estimates of current credit spreads, we have determined that the majority of the inputs used to value our derivatives fall within Level 2 of the fair value hierarchy. We have assessed the significance of the impact of the credit valuation adjustments on the overall valuation of our derivative positions and determined that the credit valuation adjustments are not significant to the overall valuation of our interest rate swaps. As a result, we determined that our interest rate swap valuation in its entirety is classified in Level 2 of the fair value hierarchy.

Foreign currency forward contracts: We enter into foreign exchange currency contracts to hedge fluctuations associated with foreign currency denominated monetary assets and liabilities, and the future payment of operating expenses by certain of our non-U.S. subsidiaries. The fair values of our foreign exchange currency contracts are based on quoted foreign exchange forward rates at the reporting date and are classified within Level 2 of the fair value hierarchy.

Contingent consideration obligations: The fair value of our contingent consideration obligations includes inputs not observable in the market and thus represent Level 3 measurements. The amount to be paid under these obligations is contingent upon the achievement of stipulated operational or financial targets by the business subsequent to acquisition. The fair value of our contingent consideration obligations are estimated using probability weighted discount models which consider the achievement of the conditions upon which the contingent obligations are dependent. The probability of achieving the specified conditions is generally assessed by applying Monte Carlo weighted-average models. These estimates are generally sensitive to changes in these projections. We develop the projected future operating results based on an analysis of historical results, market conditions, and the expected impact of anticipated changes in our overall business and/or product strategies.

The following table provides a summary of the inputs utilized in these valuation models and the associated weighted average of these inputs based on each obligation's relative fair value for the period ended September 30, 2020:

Valuation Inputs	Range	Weighted Average
Discount rate	2.6% - 3.6%	3.2%
Volatility	17.3% - 32.8%	24.3%
Compounded annual revenue growth rate[1]	40.0%	40.0%
Risk of target metric rate	4.4% - 11.8%	7.8%

[1] Excludes the compound annual revenue growth rate of Chirp. The historical revenue of Chirp is de minimis and the forecasted revenue growth rate is not meaningful and is in excess of 100%.

The following tables disclose the assets and liabilities measured at fair value on a recurring basis as of September 30, 2020 and December 31, 2019, by the fair value hierarchy levels as described above:

	Fair Value at September 30, 2020			
	Total	Level 1	Level 2	Level 3
	(in thousands)			
Assets:				
Foreign currency forward contracts[2]	$ 460	$ —	$ 460	$ —
Total assets measured at fair value	$ 460	$ —	$ 460	$ —
Liabilities:				
Interest rate swap agreements	$ 6,519	$ —	$ 6,519	$ —
Foreign currency forward contracts	5	—	5	—
Contingent consideration liabilities	9,469	—	—	9,469
Total liabilities measured at fair value	$ 15,993	$ —	$ 6,524	$ 9,469

[2] The fair value of foreign currency forward contracts includes those designated as cash flow hedge instruments and those designated as balance sheet hedge instruments.

	Fair Value at December 31, 2019			
	Total	Level 1	Level 2	Level 3
	(in thousands)			
Assets:				
Foreign currency forward contracts[2]	$ 237	$ —	$ 237	$ —
Total assets measured at fair value	$ 237	$ —	$ 237	$ —
Liabilities:				
Interest rate swap agreements	$ 2,193	$ —	$ 2,193	$ —
Foreign currency forward contracts	14	—	14	—
Contingent consideration liabilities	6,536	—	—	6,536
Total liabilities measured at fair value	$ 8,743	$ —	$ 2,207	$ 6,536

(2) The fair value of foreign currency forward contracts includes those designated as cash flow hedge instruments and those designated as balance sheet hedge instruments.

The maximum remaining potential payments related to our contingent consideration liabilities are $35.3 million as of September 30, 2020.

Changes in the fair value of Level 3 measurements were as follows for the nine months ended September 30, 2020 and 2019:

	Nine Months Ended September 30,	
	2020	2019
	(in thousands)	
Balance at beginning of period	$ 6,536	$ 6,000
Initial contingent consideration fair value	4,300	6,700
Settlements through cash payments	—	(5,963)
Net change in fair value	(1,367)	21
Balance at end of period	$ 9,469	$ 6,758

Gains and losses recognized on the change in fair value of the above liabilities are reflected in the line “General and administrative” expense in the accompanying Condensed Consolidated Statements of Operations.

Assets and liabilities measured at fair value on a non-recurring basis:

In August 2016, we acquired a $3.0 million noncontrolling interest in CompStak, Inc. (“CompStak”), which is an unrelated company that specializes in the aggregation of commercial lease data. We have elected the measurement alternative for the CompStak equity investment, whereby we measure the investment at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for an identical or similar investment of the same issuer. During the first quarter of 2019, we recorded a gain of $2.6 million based on an observable price change, which is reflected in the line “Interest expense and other, net” in the accompanying Condensed Consolidated Statements of Operations. The factors considered in the remeasurement included the price at which the investee issued equity instruments similar to those of our investment and the rights and preferences of those equity instruments compared to ours. We concluded that this fair value measurement should be categorized within Level 2.

During the second quarter of 2019, we invested an additional $1.8 million in CompStak. The carrying value of this investment at September 30, 2020 and December 31, 2019 was $7.4 million, and is included in “Other assets” in the accompanying Condensed Consolidated Balance Sheets.

There were no liabilities measured at fair value on a non-recurring basis at September 30, 2020 and December 31, 2019.

14. Stockholders’ Equity

In November 2019, our board of directors approved a share repurchase program authorizing the repurchase of up to $100.0 million of our outstanding common stock. The share repurchase program is effective through November 7, 2020. In October 2020, our board of directors approved a one year extension of this program authorizing the repurchase of up to $100.0 million of our outstanding common stock through November 7, 2021. Shares repurchased under the plan are retired. There was no repurchase activity during the three and nine months ended September 30, 2020 and 2019.

On May 22, 2020, we consummated an underwritten public offering of 5.85 million shares of our common stock, which included 0.76 million shares sold pursuant to the underwriters’ full exercise of their option to purchase additional shares. The offering was priced at $59.00 per share for total gross proceeds of $345.0 million. The aggregate net proceeds to us were $334.1 million, after deducting underwriting discounts and offering expenses in the aggregate amount of $10.9 million.

Accumulated Other Comprehensive Income (Loss)

Changes in accumulated other comprehensive income (loss) by component for the three and nine months ended September 30, 2020 and 2019 were as follows:

	Unrealized (Loss) Gain on Derivative Instruments, Net of Tax	Foreign Currency Translation Adjustments	Total
		(in thousands)	
Balance at January 1, 2020	$ (1,461)	$ (887)	$ (2,348)
Other comprehensive income (loss) before reclassifications	(3,549)	(505)	(4,054)
Amounts reclassified from accumulated other comprehensive income (loss)	134	—	134
Net current period other comprehensive income (loss)	(3,415)	(505)	(3,920)
Balance at March 30, 2020	(4,876)	(1,392)	(6,268)
Other comprehensive income (loss) before reclassifications	(414)	180	(234)
Amounts reclassified from accumulated other comprehensive income (loss)	375	—	375
Net current period other comprehensive income (loss)	(39)	180	141
Balance at June 30, 2020	(4,915)	(1,212)	(6,127)
Other comprehensive income (loss) before reclassifications	309	269	578
Amounts reclassified from accumulated other comprehensive income (loss)	332	—	332
Net current period other comprehensive income (loss)	641	269	910
Balance at September 30, 2020	$ (4,274)	$ (943)	$ (5,217)
Balance at January 1, 2019[(1)]	$ 249	$ (716)	$ (467)
Other comprehensive income (loss) before reclassifications	(586)	(99)	(685)
Amounts reclassified from accumulated other comprehensive income (loss)	(220)	—	(220)
Net current period other comprehensive income (loss)	(806)	(99)	(905)
Balance at March 31, 2019	(557)	(815)	(1,372)
Other comprehensive income (loss) before reclassifications	(991)	118	(873)
Amounts reclassified from accumulated other comprehensive income (loss)	(223)	—	(223)
Net current period other comprehensive income (loss)	(1,214)	118	(1,096)
Balance at June 30, 2019	(1,771)	(697)	(2,468)
Other comprehensive income (loss) before reclassifications	(143)	258	115
Amounts reclassified from accumulated other comprehensive income (loss)	(135)	—	(135)
Net current period other comprehensive income (loss)	(278)	258	(20)
Balance at September 30, 2019	$ (2,049)	$ (439)	$ (2,488)

[(1)]Reflects the cumulative effective of adopting ASU 2017-12 in the prior period.

15. Derivative Financial Instruments

Cash Flow Hedges

Interest Rate Swap Agreements

We are exposed to interest rate risk on our variable rate debt. We have entered into interest rate swap agreements to effectively convert portions of our variable rate debt to a fixed-rate basis. The principal objective of these contracts is to eliminate or reduce the variability of the cash flows in interest payments associated with our variable rate debt, thus reducing the impact of interest rate changes on future interest payment cash flows. These derivative instruments are designated as cash flow hedges, as defined in ASC 815, and are assessed for effectiveness against the underlying exposure every reporting period.

On March 31, 2016, we entered into two interest rate swap agreements (collectively the "2016 Swap Agreements"). The 2016 Swap Agreements covered an aggregate notional amount of $75.0 million from March 2016 to September 2019 by replacing the obligation's variable rate with a blended fixed rate of 0.89%. The 2016 Swap Agreements matured on September 30, 2019.

On December 24, 2018, we entered into two interest rate swap agreements (collectively the "2018 Swap Agreements"). The 2018 Swap Agreements covered an aggregate notional amount of $100.0 million from December 2018 to February 2022 by replacing the obligation's variable rate with a blended fixed rate of 2.57%.

On February 10, 2020, we entered into an interest rate swap agreement (the "2020 Swap Agreement") that covers an aggregate notional amount of $100.0 million from February 2020 to September 2024 by replacing the obligation's variable rate with a fixed rate of 1.89%. In connection with this transaction, we terminated the 2018 Swap Agreements on a prospective basis and designated the 2020 Swap Agreement under a new cash flow hedge relationship. The fair value of the 2018 Swap Agreements immediately prior to termination was a liability of $2.5 million. The 2020 Swap Agreement contains a blend of the current interest rate environment and the unfavorable portion of the terminated 2018 Swap Agreements, which resulted in a significant financing element at inception of the new cash flow hedge due to off-market terms. Because the forecasted transactions that the 2018 Swap Agreements were designated to hedge are still probable to occur, the unrealized loss will be reclassified into earnings through September 2024.

The changes in the fair value of the swap agreements are initially recorded in accumulated other comprehensive income (loss) net of tax and are subsequently reclassified into earnings in the period that the hedged forecasted transaction affects earnings. Amounts reported in accumulated other comprehensive income (loss) related to the swap agreements will be reclassified to "Interest expense and other, net" in the accompanying Condensed Consolidated Statements of Operations as interest payments are made on our variable rate debt.

Foreign Exchange Currency Contracts

We are exposed to market risk that includes changes in foreign exchange rates. We have operations in certain foreign countries where the functional currency is the local currency. For international operations that are determined to be extensions of the parent company, the U.S. dollar is the functional currency. As of September 30, 2020, we have entered into a series of foreign exchange forward contracts with a total notional amount of $14.9 million to hedge the effect of adverse fluctuations in foreign currency exchange rates for the Indian rupee and Philippines peso. These contracts are designated as cash flow hedges, as defined by ASC 815, of forecasted transactions, are intended to offset the impact of movement of exchange rates on future operating costs and are scheduled to mature within twelve months.

The changes in the fair value of these contracts are initially recorded in accumulated other comprehensive income (loss) net of tax and are subsequently reclassified to "Cost of revenue" and "Operating expenses" in the accompanying Condensed Consolidated Statements of Operations in the same period that the hedged transactions affect earnings.

The table below presents the fair value of the derivative instruments designated as cash flow hedges as well as their classification in the Condensed Consolidated Balance Sheets as of September 30, 2020 and December 31, 2019:

		Fair Value at	
	Balance Sheet Location	September 30, 2020	December 31, 2019
		(in thousands)	
Derivatives designated as cash flow hedging instruments:			
Assets:			
Foreign currency forward contracts	Other current assets	$ 452	$ 217
Total derivative assets		$ 452	$ 217
Liabilities:			
Interest rate swaps	Other long-term liabilities	$ 6,519	$ 2,193
Foreign currency forward contracts	Other current liabilities	5	14
Total derivative liabilities		$ 6,524	$ 2,207

As of September 30, 2020, we have not posted any collateral related to our derivative instruments. If we had breached any of the default provisions at September 30, 2020, we could have been required to settle our obligations under the agreements at their termination value of $6.4 million.

The tables below present the amount of gains and losses related to the derivative instruments and their location in the Condensed Consolidated Statements of Operations and the Condensed Consolidated Statements of Comprehensive Income for the three and nine months ended September 30, 2020 and 2019, in thousands:

Derivatives Designated as Cash Flow Hedges	Gain (Loss) Recognized in OCI			Gain (Loss) Recognized in Income	
Three Months Ended September 30,	2020	2019	Location of Gain (Loss) Recognized in Income	2020	2019
Swap agreements, net of tax	$ (13)	$ (71)	Interest expense and other	$ (479)	$ 132
Foreign currency forward contracts, net of tax	$ 322	$ (72)	Cost of revenue and operating expenses	$ 147	$ 3

Derivatives Designated as Cash Flow Hedges	Gain (Loss) Recognized in OCI			Gain (Loss) Recognized in Income	
Nine Months Ended September 30,	2020	2019	Location of Gain (Loss) Recognized in Income	2020	2019
Swap agreements, net of tax	$ (3,984)	$ (1,737)	Interest expense and other	$ (1,024)	$ 565
Foreign currency forward contracts, net of tax	$ 330	$ 17	Cost of revenue and operating expenses	$ 183	$ 13

As of September 30, 2020, we estimate that $2.1 million of the net loss related to derivatives designated as cash flow hedges recorded in accumulated other comprehensive loss is expected to be reclassified into earnings within the next twelve months.

Gains and losses on our cash flow hedges are net of income tax expense (benefit) of $0.3 million and $(0.4) million for the three months ended September 30, 2020 and 2019, respectively, and income tax benefit of $0.9 million and $0.7 million for the nine months ended September 30, 2020 and 2019, respectively. Cash flows from these derivative instruments are included within the operating activities in the Condensed Consolidated Statements of Cash Flows, as our accounting policy is to present cash flows from hedging instruments in the same category as the item being hedged. The 2020 Swap Agreement contains an other-than-insignificant financing element and, accordingly, the associated cash flows are reported as financing activities in the Condensed Consolidated Statements of Cash Flows.

Balance Sheet Hedges

We also enter into foreign currency forward contracts to hedge fluctuations associated with foreign currency denominated monetary assets and liabilities primarily associated with our lease liabilities. These forward contracts are not designated for hedge accounting treatment, therefore, the change in fair value of these derivatives is recorded as a component of “General and administrative" in the accompanying Condensed Consolidated Statements of Operations and offsets the change in fair value of the foreign currency denominated assets and liabilities, which are also recorded in "General and administrative". As of September 30, 2020, the notional amounts of outstanding foreign currency contracts entered into under our balance sheet hedge program was $2.2 million. The effect of derivatives not designated as hedge instruments for the period ended September 30, 2020 was de minimis.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

This Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (which Sections were adopted as part of the Private Securities Litigation Reform Act of 1995). Statements preceded by, followed by, or that otherwise include the words "anticipates," "aspires," "believes," "can," "continues," "could," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "projects," "seeks," "should," "will," or "would" or similar expressions and the negatives of those terms are generally forward-looking in nature and not historical facts. These forward-looking statements involve known and unknown risks, uncertainties, and other factors, which may cause our actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by the forward looking statements. Factors that might cause or contribute to such differences include, but are not limited to, the potential impacts of the COVID-19 pandemic on our business, financial condition and results of operations, those discussed in the section entitled "Risk Factors" in Part II, Item 1A of this report and those discussed in our Annual Report on Form 10-K for the fiscal year 2019 previously filed with the SEC on March 2, 2020 ("Annual Report on Form 10-K"), and our Quarterly Report on Form 10-Q for the second quarter of 2020 filed on August 4, 2020 ("Quarterly Report on Form 10-Q"). You should carefully review the risks described herein and in the other documents we file from time to time with the SEC. You should not place undue reliance on forward-looking statements herein, which speak only as of the date of this report. Except as required by law, we disclaim any intention, and undertake no obligation, to revise any forward-looking statements, whether as a result of new information, a future event, or otherwise.

Overview

We are a leading global provider of software and data analytics to the real estate industry. Clients use our platform of solutions to improve operating performance and increase capital returns. By leveraging data as well as integrating and streamlining a wide range of complex processes and interactions among the rental real estate ecosystem, our platform helps our clients improve financial and operational performance and prudently place and harvest capital.

The substantial majority of our revenue is derived from sales of our on demand software solutions sold pursuant to subscription license agreements. We also derive revenue from our professional and other services. For our insurance-based solutions, we earn revenue based on a commission rate that considers earned premiums, agent commission, incurred losses, and profit retained by our underwriting partners. Our transaction-based solutions are priced based on a fixed rate per transaction. We sell our solutions through our direct sales organization and derive substantially all of our revenue from sales in the United States.

We believe there is increasing demand for solutions that bring efficiency and precision to the rental real estate industry, which has historically lacked the tools available to many other investment classes. While the use of, and transition to, data analytics and on demand software solutions in the rental real estate industry is growing rapidly, we believe it remains at a relatively early stage of adoption. Additionally, there is a modest level of penetration of our on demand software solutions in our existing client base. We believe these factors present us with significant opportunities to generate revenue through sales of additional data analytics and on demand software solutions.

Our company was formed in 1998 to acquire Rent Roll, Inc., which marketed and sold on premise property management systems for the conventional and affordable multifamily rental housing markets. In June 2001, we released OneSite, our first on demand property management system. Since 2002, we have expanded our platform of solutions to include property management, leasing and marketing, resident services, and asset optimization capabilities. In addition to the multifamily markets, we now serve the single family, senior living, student living, military housing, commercial, hospitality, homeowner association, short-term rental and vacation rental markets. Since July 2002, we have completed over 50 acquisitions of complementary technologies to supplement our internal product development and sales and marketing efforts and expand the scope of our solutions, the types of rental housing and vacation rental properties served by our solutions, and our client base. In connection with this expansion and these acquisitions, we have committed greater resources to developing and increasing sales of our platform of data analytics and on demand solutions. As of September 30, 2020, we had approximately 7,500 employees.

COVID-19 Pandemic

During the quarter ended September 30, 2020, we continued to respond to the challenges that the evolving COVID-19 virus ("COVID-19") pandemic created for us and our customers. Almost all our staff continued to operate in a work-from-home environment while simultaneously supporting our customers as they used our software services to sustain their operations while reducing in-person interactions with their customers. Portions of our business, including our electronic payment processing services, experienced continued growth during the quarter. Certain of our other services that experienced lower transactional volumes during the second quarter as a result of COVID-19 began returning to more normalized levels during the third quarter.

Many countries, including the United States, are still experiencing high levels of new COVID-19 infections, and the ultimate severity and duration of the outbreak and its effect on our future operations is uncertain. It is possible that the COVID-19 pandemic, the measures taken by the governments of countries affected, and the resulting economic impact could still materially adversely affect our future results of operations, cash flows and financial position, as well as the financial health of our customers in the short and long term. The reduced economic activity resulting from the COVID-19 virus may impact multifamily tenants' ability to fully meet their obligations to our customers and, in turn, our customers' ability to meet their obligations to us or to otherwise seek modifications of such obligations, resulting in increases in uncollectible receivables and reductions in revenue. Further, the negative financial impact of the pandemic could impact our future compliance with financial covenants or our credit facility and other debt agreements, and the weaker economic conditions could cause us to recognize impairment in value of our tangible or intangible assets.

Solutions and Services

Our platform is designed to serve as a single system of record for all of the constituents of the rental real estate ecosystem; to support the entire renter life cycle, from prospect to applicant to residency or guest to post-residency or post-stay; and to optimize operational yields and returns on investment. Common authentication, workflow, and user experience across solution categories enables each of these constituents to access different applications as appropriate for their roles.

Our platform consists of four primary categories of solutions: Property Management, Leasing and Marketing, Resident Services, and Asset Optimization. These solutions provide complementary asset performance and investment decision support; risk mitigation, billing and utility management; resident engagement, spend management, operations and facilities management; and lead generation and lease management capabilities that collectively enable our clients to manage all the stages of the renter life cycle. Each of our solution categories includes multiple product centers that provide distinct capabilities that can be bundled as a package or licensed separately. Each product center integrates with a central repository of lease transaction data, including prospect, renter, and property data. In addition, our open architecture allows third-party applications to access our solutions using our RealPage Exchange platform.

We offer different versions of our platform for different types of properties in different real estate markets. For example, our platform supports the specific and distinct requirements of:

- conventional single family properties;
- conventional multifamily properties;
- affordable Housing and Urban Development ("HUD") properties;
- affordable tax credit properties;
- rural housing properties;
- privatized military housing;
- commercial properties;
- student housing;
- senior living;
- homeowner association properties;
- short-term rentals;
- vacation rentals; and
- institutional.

Property Management

Our property management solutions are referred to as ERP systems. These solutions manage core property management business processes, including leasing, accounting, budgeting, purchasing, facilities management, document management, and support and advisory services. The solutions include a central database of prospect, applicant, renter, and property information that is accessible in real time by our other solutions. Our property management solutions also interface with most popular general ledger accounting systems through our RealPage Exchange platform. This makes it possible for clients to deploy our solutions using our accounting system or a third-party accounting system. Our property management solution category consists of the following primary solutions: OneSite, Propertyware, Buildium, RealPage Financial Services, Kigo, Spend Management Solutions, SmartSource IT, EasyLMS, and Stratis.

Resident Services

Our resident services solutions provide a platform to optimize the transactional and social experience of prospects and renters, and enhance a property's reputation. These solutions facilitate core renter management business processes including utility billing, renter payment processing, service requests, lease renewal, renter's insurance, and consulting and advisory services. Our resident services solution category primarily consists of the following primary solutions: Resident Utility Management, SimpleBills, Resident Payments, ActiveBuilding, Contact Center Maintenance, and Renter's Insurance.

Leasing and Marketing

Leasing and marketing solutions aim to optimize marketing spend and the leasing process. These solutions manage core leasing and marketing processes, including websites and syndication, paid lead generation, organic lead generation, lead management, automated lead closure, lead analytics, real-time unit availability, automated online apartment leasing, applicant screening, and creative content design. Our leasing and marketing solutions category consists of the following primary solutions: Online Leasing, Contact Center, Websites & Syndication, Intelligent Lease Management, LeaseLabs, AI Resident Screening, MyNewPlace, and Modern Message.

Asset Optimization

Our asset optimization solutions aim to optimize property financial and operational performance and provide comprehensive analytics-based decision support for optimum investment performance throughout the phases of real estate investment (e.g., acquisition, operation, renovation, and disposition). These solutions facilitate core asset management, business intelligence, performance benchmarking and investment analysis including real-time yield management, revenue growth forecasting, key variable sensitivity forecasting, internal operating metric benchmarking and external market benchmarking. Our asset optimization solution category consists of the following primary solutions: Revenue Management, Business Intelligence, and Asset and Investment Management.

Professional Services

We have developed repeatable, cost-effective consulting and implementation services to assist our clients in taking advantage of our capabilities and solutions. Our consulting and implementation methodology leverages the nature of our on demand software architecture, the industry-specific expertise of our professional services employees, and the design of our platform to simplify and expedite the implementation process. Our consulting and implementation services include project and application management procedures, business process evaluation, business model development and data conversion. Our consulting teams work closely with customers to facilitate the smooth transition and operation of our solutions.

We offer training programs for training administrators and onsite property managers on the use of our solutions. Training options include regularly hosted classroom and online instruction (through our online learning courseware), as well as online webinars. Our clients can integrate their own training content with our content to deliver an integrated and customized training program for their on-site property managers.

Recent Developments

Acquisition Activity

Chirp

On September 21, 2020, we entered into an Agreement and Plan of Merger, by which we acquired all the outstanding stock of Chirp, a provider of smart access software and technology solutions to the multifamily housing industry. Aggregate purchase consideration was $16.8 million, including contingent consideration of up to $10.0 million that is tied to operational performance targets through 2022, and deferred cash obligations of up to $1.3 million, subject to working capital adjustments and indemnification claims. The acquisition was financed with cash on hand.

Stratis

On August 31, 2020, we entered into an Agreement and Plan of Merger, by which we acquired all the outstanding stock of Stratis, a provider of software, technology and services that enable smart apartments and intelligent buildings, including a SaaS platform specifically built for the complexities of the multifamily and student housing industries. Aggregate purchase consideration was $64.8 million, including deferred cash obligations of up to $6.0 million, subject to working capital adjustments and indemnification claims. The acquisition was financed with cash on hand.

Refer to Note 3 of the accompanying Condensed Consolidated Financial Statements for further discussion of these acquisitions.

Key Business Metrics

In addition to traditional financial measures, we monitor our operating performance using a number of financially and non-financially derived metrics that are not included in our Condensed Consolidated Financial Statements. We monitor the key performance indicators reflected in the following table:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
	(in thousands, except dollar per unit data)			
Revenue:				
Total revenue	$ 298,149	$ 255,202	$ 860,429	$ 733,369
On demand revenue	$ 290,239	$ 245,637	$ 837,269	$ 707,341
On demand revenue as a percentage of total revenue	97.3 %	96.3 %	97.3 %	96.5 %
Non-GAAP total revenue	$ 298,537	$ 255,240	$ 861,642	$ 733,788
Non-GAAP on demand revenue	$ 290,627	$ 245,675	$ 838,482	$ 707,760
Adjusted EBITDA	$ 86,168	$ 72,113	$ 237,550	$ 205,520
Ending on demand units	19,502	16,779		
Average on demand units	19,191	16,642		
On demand annual client value	$ 1,176,751	$ 990,800		
Annualized on demand revenue per ending on demand unit	$ 60.34	$ 59.05		

On demand revenue: This metric represents the GAAP revenue derived from license and subscription fees relating to our on demand software solutions, typically licensed over one year terms; commission income from sales of renter's insurance policies; and transaction fees for certain of our on demand software solutions. We consider on demand revenue to be a key business metric because we believe the market for our on demand software solutions represents the largest growth opportunity for our business.

On demand revenue as a percentage of total revenue: This metric represents on demand revenue for the period presented divided by total revenue for the same period. We use on demand revenue as a percentage of total revenue to measure our success executing our strategy to increase the penetration of our on demand software solutions and expand our recurring revenue streams attributable to these solutions. We expect our on demand revenue to remain a significant percentage of our total revenue although the actual percentage may vary from period to period due to a number of factors, including the timing of acquisitions, professional and other revenues, and on premise perpetual license sales and maintenance fees.

Non-GAAP total revenue: This metric is calculated by adding acquisition-related deferred revenue to total revenue. We believe it is useful to include deferred revenue written down for GAAP purposes under purchase accounting rules in order to appropriately measure the underlying performance of our business operations in the period of activity and associated expense. Further, we believe this measure is useful to investors as a way to evaluate our ongoing performance because it provides a more accurate depiction of revenue arising from our strategic acquisitions.

The following provides a reconciliation of GAAP to non-GAAP total revenue:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
	(in thousands)			
Total revenue	$ 298,149	$ 255,202	$ 860,429	$ 733,369
Acquisition-related deferred revenue	388	38	1,213	419
Non-GAAP total revenue	$ 298,537	$ 255,240	$ 861,642	$ 733,788

Non-GAAP on demand revenue: This metric reflects total on demand revenue plus acquisition-related deferred revenue, as described above. We believe inclusion of these items provides a useful measure of the underlying performance of our on demand business operations in the period of activity and associated expense. Further, we believe that investors and financial analysts find this measure to be useful in evaluating our ongoing performance because it provides a more accurate depiction of on demand revenue arising from our strategic acquisitions.

The following provides a reconciliation of GAAP to non-GAAP on demand revenue:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
	(in thousands)			
On demand revenue	$ 290,239	$ 245,637	$ 837,269	$ 707,341
Acquisition-related deferred revenue	388	38	1,213	419
Non-GAAP on demand revenue	$ 290,627	$ 245,675	$ 838,482	$ 707,760

Adjusted EBITDA: We define Adjusted EBITDA as net income, plus (1) acquisition-related deferred revenue, (2) depreciation, asset impairment, and loss on disposal of assets, (3) amortization of product technologies and intangible assets, (4) change in fair value of equity investment, (5) acquisition-related expense, (6) organizational realignment, (7) regulatory and legal matters, (8) stock-based expense, (9) interest expense, net, and (10) income tax expense. We believe that investors and financial analysts find this non-GAAP financial measure to be useful in analyzing our financial and operational performance, comparing this performance to our peers and competitors, and understanding our ability to generate income from ongoing business operations.

The following provides a reconciliation of net income to Adjusted EBITDA:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
	(in thousands)			
Net income	$ 16,341	$ 11,704	$ 33,247	$ 38,039
Acquisition-related deferred revenue	388	38	1,213	419
Depreciation, asset impairment, and loss on disposal of assets	9,205	8,498	26,154	25,955
Amortization of product technologies and intangible assets	25,442	20,759	76,411	60,411
Change in fair value of equity investment	—	—	—	(2,600)
Acquisition-related expense	1,682	755	8,543	1,160
Organizational realignment	—	684	2,431	684
Regulatory and legal matters	—	215	2,509	567
Stock-based expense	15,817	16,498	44,349	47,276
Interest expense, net	13,267	8,791	39,301	25,613
Income tax expense	4,026	4,171	3,392	7,996
Adjusted EBITDA	$ 86,168	$ 72,113	$ 237,550	$ 205,520

Ending on demand units: This metric represents the number of units managed by our clients with one or more of our on demand software solutions at the end of the period. We use ending on demand units to measure the success of our strategy of increasing the number of units managed with our on demand software solutions. Property unit counts are provided to us by our clients as new sales orders are processed. Property unit counts may be adjusted periodically as information related to our clients' properties is updated or supplemented, which could result in adjustments to the number of units previously reported.

Average on demand units: We calculate average on demand units as the average of the beginning and ending on demand units for each quarter in the period presented. This metric is a measure of our success increasing the number of on demand software solutions utilized by our clients to manage their property units, our overall revenue, and profitability.

On demand annual client value ("ACV"): ACV represents our estimate of the annual value of our on demand revenue contracts at a point in time. We monitor this metric to measure our success in increasing the number of on demand units, and the amount of software solutions utilized by our clients to manage their property units.

On demand revenue per ending on demand unit ("RPU"): We define RPU as ACV divided by ending on demand units. We monitor this metric to measure our success in increasing the penetration of on demand software solutions utilized by our clients to manage their property units.

Non-GAAP Financial Measures

We report our financial results in accordance with GAAP; however, we believe that, in order to properly understand our short-term and long-term financial, operational, and strategic trends, it may be helpful for investors to exclude certain non-cash or non-recurring items when used as a supplement to financial performance measures in accordance with GAAP. These items result from facts and circumstances that vary in both frequency and impact on continuing operations. We also use results of operations excluding such items to evaluate our operating performance compared against prior periods, make operating decisions, determine executive compensation, and serve as a basis for long-term strategic planning. These non-GAAP financial measures provide us with additional means to understand and evaluate the operating results and trends in our ongoing business by eliminating certain non-cash expenses and other items that we believe might otherwise make comparisons of our ongoing business with prior periods more difficult, obscure trends in ongoing operations, reduce our ability to make useful forecasts, or obscure the ability to evaluate the effectiveness of certain business strategies and management incentive structures. In addition, we also believe that investors and financial analysts find this information helpful in analyzing our financial and operational performance and comparing this performance to our peers and competitors. These non-GAAP financial measures are used in conjunction with traditional GAAP financial measures as part of our overall assessment of our performance.

We do not place undue reliance on non-GAAP financial measures as measures of operating performance. Non-GAAP financial measures should not be considered substitutes for other measures of financial performance or liquidity reported in accordance with GAAP. There are limitations to using non-GAAP financial measures, including that other companies may calculate these measures differently than we do; that they do not reflect changes in, or cash requirements for, our working capital; and that they do not reflect our capital expenditures or future requirements for capital expenditures. We compensate for the inherent limitations associated with using non-GAAP financial measures through disclosure of these limitations, presentation of our financial statements in accordance with GAAP, and reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measures.

We exclude or adjust each of the items identified below from the applicable non-GAAP financial measure referenced above for the reasons set forth with respect to each excluded item:

Acquisition-related deferred revenue: This item is included to reflect deferred revenue written down for GAAP purposes under purchase accounting in order to appropriately measure the underlying performance of our business operations in the period of activity and associated expense.

Asset impairment and (gain) loss on disposal of assets: This item comprises gains and/or losses on the disposal and impairment of long-lived assets, and impairment of intangible assets, which are not reflective of our ongoing operations. We believe exclusion of this item facilitates a more accurate comparison of our results of operations between periods.

Depreciation of long-lived assets: Long-lived assets are depreciated over their estimated useful lives in a manner reflecting the pattern in which the economic benefit is consumed. Management is limited in its ability to change or influence these charges after the asset has been acquired and placed in service. We do not believe that depreciation expense accurately reflects the performance of our ongoing operations for the period in which the charges are incurred, and it is therefore not considered by management in making operating decisions.

Amortization of product technologies and intangible assets: Intangible assets are amortized over their estimated useful lives and generally cannot be changed or influenced by management after initial capitalization. Accordingly, this item is not considered by us in making operating decisions. We do not believe such charges accurately reflect the performance of our ongoing operations for the period in which such charges are incurred.

Change in fair value of equity investment: This item represents changes in fair value of our equity investment based on observable price changes in orderly transactions for an identical or similar investment of the same issuer. We believe exclusion of this item facilitates a more accurate comparison of our results of operations between periods as this item is not reflective of our ongoing operations.

Acquisition-related expense: This item consists of direct costs incurred in our business acquisition transactions and expenses related to integration activities, and the impact of changes in the fair value of acquisition-related contingent consideration obligations. Examples of these direct costs include transaction fees, due diligence costs, acquisition retention bonuses and severance, and third-party consultants to assist with integration. We believe exclusion of this item facilitates a more accurate comparison of the results of our ongoing operations across periods and eliminates volatility related to changes in the fair value of acquisition-related contingent consideration obligations.

Organizational realignment: This item consists of direct costs associated with the alignment of our business strategies. In connection with these actions, we recognize costs related to termination benefits, exit costs associated with closure of facilities, certain asset impairments, cancellation of certain contracts, and other professional and consulting fees associated with these initiatives. We believe exclusion of this item facilitates a more accurate comparison of our ongoing results of operations between periods.

Regulatory and legal matters: This item comprises certain regulatory and similar costs and certain legal settlement costs, such as costs related to the company's Hart-Scott-Rodino Antitrust Improvements Act review process incurred in connection with our acquisitions or the settlement of certain legal matters. These costs are excluded as they are irregular in timing and scope and may not be indicative of our past and future performance. We believe exclusion of this item facilitates a more accurate comparison of the company's results of operations between periods.

Stock-based expense: This item is excluded because it is a non-cash expenditure that we do not consider part of ongoing operating results when assessing the performance of our business, and also because the total amount of the expenditure is partially outside of management's control because it is based on factors such as stock price, volatility, and interest rates, which may be unrelated to our performance during the period in which the expenses are incurred.

Key Components of Our Results of Operations

Revenue

We derive our revenue from two primary sources: our on demand software solutions and our professional and other services.

On demand revenue: Revenue from our on demand software solutions is comprised of license and subscription fees relating to our on demand software solutions, typically licensed for one year terms; commission income from sales of renter's insurance policies; and transaction fees for certain on demand software solutions, such as payment processing, spend management, and billing services. For our insurance based solutions, our agreements provide for a fixed commission on earned premiums related to the policies sold by us. The agreements also provide for a contingent commission to be paid to us in accordance with the agreements. Our transaction-based solutions are priced based on a fixed rate per transaction.

Professional and other revenue: Revenue from professional and other services consists of consulting and implementation services; training; and other ancillary services. We complement our solutions with professional and other services for our clients willing to invest in enhancing the value or decreasing the implementation time of our solutions. Our professional and other services are typically priced as time and materials engagements. Professional and other revenue also includes revenues generated from sub-meter installation services under our resident utility management solutions, and our on premise solutions.

Cost of Revenue

Cost of revenue consists primarily of personnel costs related to our operations; support services; training and implementation services; expenses related to the operation of our data centers; transaction processing fees; and fees paid to third-party service providers. Personnel costs include salaries, bonuses, stock-based expense, and employee benefits. Cost of revenue also includes an allocation of facilities costs, overhead costs, and depreciation, which are allocated based on headcount.

Amortization of Product Technologies

Amortization of product technologies includes amortization of developed product technologies related to strategic acquisitions and amortization of capitalized development costs.

Operating Expenses

We classify our operating expenses into four primary categories: product development, sales and marketing, general and administrative, and amortization of intangible assets. Our operating expenses primarily consist of personnel costs, costs for third-party contracted development, marketing, legal, accounting and consulting services, and other professional service fees. Personnel costs for each category of operating expenses include salaries, bonuses, stock-based expense, and employee benefits for employees in that category. Our operating expenses also include an allocation of facilities costs, overhead costs, and depreciation based on headcount for the product development, sales and marketing, and general and administrative categories.

Product development: Product development expense consists primarily of personnel costs for our product development employees and executives, information technology and facilities, and fees to contract development vendors. Our product development efforts are focused primarily on increasing the functionality and enhancing the ease of use of our platform of solutions and expanding our suite of data analytics and on demand software solutions. In addition to our locations in the United States, we maintain product development and service centers in Hyderabad, India; Manila, Philippines; Medellin, Colombia; and Cebu City, Philippines.

Sales and marketing: Sales and marketing expense consists primarily of personnel costs for our sales, marketing, and business development employees and executives, information technology, travel and entertainment, and marketing programs. Marketing programs consist of amounts paid for product marketing, renter's insurance, other advertising, trade shows, user conferences, public relations, and industry sponsorships and affiliations.

General and administrative: General and administrative expense consists of personnel costs for our executives, finance and accounting, human resources, management information systems, and legal personnel. In addition, general and administrative expense includes fees for professional services, including legal, accounting, and other consulting services, information technology and facilities costs, and acquisition-related costs, including direct costs incurred to complete our acquisitions and changes in the fair value of our acquisition-related contingent consideration obligations.

Amortization of intangible assets: Amortization of intangible assets consist of amortization of purchased intangible assets, including client relationships, key vendor and supplier relationships, finite-lived trade names, and non-compete agreements, obtained in connection with our acquisitions.

Interest Expense and Other, Net

Interest expense and other, net, consists primarily of interest income, interest expense, and impairments on investments. Interest income represents earnings from our cash and cash equivalents. Interest expense is associated with amounts borrowed under the Amended Credit Facility, Convertible Notes, finance lease obligations, and certain acquisition-related liabilities, and includes expense from the amortization of related discounts and debt issuance costs. We participate in interest rate swap agreements, the purpose of which is to eliminate variability in interest rate payments on a portion of the Term Loans. For that portion, the swap agreements replace the Term Loan's variable rate with a fixed rate.

Critical Accounting Policies and Estimates

Our Condensed Consolidated Financial Statements are prepared in accordance with GAAP. In many cases, the accounting treatment of a particular transaction is specifically dictated by GAAP and does not require management's judgment in its application, while in other cases, management's significant judgment is required to make estimates, assumptions, and judgments that affect the reported amount of assets, liabilities, revenue, expenses, and related disclosures. We base our estimates and assumptions on historical experience and other factors that we believe to be reasonable under the circumstances. In some instances, we could reasonably use different accounting estimates, and in other instances, results could differ significantly from our estimates. We evaluate our estimates and assumptions on an ongoing basis. To the extent that there are differences between our estimates and actual results, our future financial statement presentation, financial condition, results of operations, and cash flows will be affected.

We believe that the following critical accounting policies involve our more significant judgments, assumptions and estimates, and therefore, could have the greatest potential impact on our Condensed Consolidated Financial Statements:

- Revenue recognition;
- Deferred commissions;
- Stock-based expense;
- Income taxes, including deferred tax assets and liabilities;
- Business combinations;
- Goodwill and indefinite-lived intangible assets; and
- Internally developed software

Please refer to our Annual Report on Form 10-K for a discussion of such policies.

Recently Adopted Accounting Standards

Accounting Standards Update 2016-13

In June 2016, the Financial Accounting Standards Board ("FASB") issued ASU 2016-13,*Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The amendments in this ASU replaced the incurred loss impairment methodology in GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. Our financial assets in the scope of ASU 2016-13 mainly consist of short-term trade receivables. We have also considered contract assets in our evaluation. Historically, our actual credit losses have not been material. In addition to continuing to individually assess overdue customer balances for expected credit losses, we have implemented modifications to our historical methodology that reflect the expected credit losses on receivables considering both historical experience and forward-looking assumptions. We adopted ASU 2016-13 using the modified retrospective approach on January 1, 2020, resulting in no cumulative adjustment to retained earnings. The adoption of this ASU did not have a material impact on our Condensed Consolidated Financial Statements. We will continue to actively monitor the impact of the COVID-19 pandemic on expected credit losses.

See Note 2 of the accompanying Condensed Consolidated Financial Statements for additional information regarding recently adopted or issued accounting standards.

Results of Operations

The following tables set forth our unaudited results of operations for the specified periods and the components of such results as a percentage of total revenue for the respective periods. The period-to-period comparison of financial results is not necessarily indicative of future results.

Condensed Consolidated Statements of Operations

	Three Months Ended September 30,			
	2020	2020	2019	2019
	(in thousands, except per share amounts)			
Revenue:				
On demand	$ 290,239	97.3 %	$ 245,637	96.3 %
Professional and other	7,910	2.7	9,565	3.7
Total revenue	298,149	100.0	255,202	100.0
Cost of revenue[1]	111,497	37.4	98,783	38.7
Amortization of product technologies	14,236	4.8	10,315	4.0
Gross profit	172,416	57.8	146,104	57.3
Operating expenses:				
Product development[1]	34,066	11.4	27,866	10.9
Sales and marketing[1]	55,563	18.6	51,906	20.3
General and administrative[1]	37,909	12.7	31,249	12.2
Amortization of intangible assets	11,206	3.8	10,444	4.1
Total operating expenses	138,744	46.5	121,465	47.6
Operating income	33,672	11.3	24,639	9.7
Interest expense and other, net	(13,305)	(4.5)	(8,764)	(3.4)
Income before income taxes	20,367	6.8	15,875	6.2
Income tax expense	4,026	1.4	4,171	1.6
Net income	$ 16,341	5.5 %	$ 11,704	4.6 %
Net income per share attributable to common stockholders:				
Basic	$ 0.16		$ 0.13	
Diluted	$ 0.16		$ 0.12	
Weighted average common shares outstanding:				
Basic	99,334		92,239	
Diluted	103,385		97,114	
[1] Includes stock-based expense as follows:				
Cost of revenue	$ 1,754		$ 1,425	
Product development	$ 2,893		$ 1,948	
Sales and marketing	$ 5,658		$ 6,358	
General and administrative	$ 5,512		$ 6,767	

	Nine Months Ended September 30,			
	2020	2020	2019	2019
	(in thousands, except per share amounts)			
Revenue:				
On demand	$ 837,269	97.3 %	$ 707,341	96.5 %
Professional and other	23,160	2.7	26,028	3.5
Total revenue	860,429	100.0	733,369	100.0
Cost of revenue(1)	331,120	38.5	284,685	38.8
Amortization of product technologies	42,539	4.9	29,729	4.1
Gross profit	486,770	56.6	418,955	57.1
Operating expenses:				
Product development(1)	97,047	11.3	85,914	11.7
Sales and marketing(1)	159,644	18.6	145,849	19.9
General and administrative(1)	120,836	14.0	87,702	12.0
Amortization of intangible assets	33,872	3.9	30,682	4.2
Total operating expenses	411,399	47.8	350,147	47.7
Operating income	75,371	8.8	68,808	9.4
Interest expense and other, net	(38,732)	(4.5)	(22,773)	(3.1)
Income before income taxes	36,639	4.3	46,035	6.3
Income tax benefit	3,392	0.4	7,996	1.1
Net income	$ 33,247	3.9 %	$ 38,039	5.2 %
Net income per share attributable to common stockholders:				
Basic	$ 0.35		$ 0.41	
Diluted	$ 0.33		$ 0.39	
Weighted average common shares outstanding:				
Basic	95,926		91,884	
Diluted	99,898		96,392	
(1) Includes stock-based expense as follows:				
Cost of revenue	$ 6,021		$ 4,203	
Product development	$ 6,459		$ 6,444	
Sales and marketing	$ 13,842		$ 18,091	
General and administrative	$ 18,027		$ 18,538	

Comparison of the Three and Nine Months Ended September 30, 2020 and 2019

Our discussion and analysis below is specific to changes during the three and nine month periods ended September 30, 2020 as compared to the same periods in the prior year, unless otherwise noted.

Revenue

	Three Months Ended September 30,			
	2020	2019	Change	% Change
	(in thousands, except per unit data)			
Revenue:				
On demand	$ 290,239	$ 245,637	$ 44,602	18.2 %
Professional and other	7,910	9,565	(1,655)	(17.3)
Total revenue	$ 298,149	$ 255,202	$ 42,947	16.8
Non-GAAP on demand revenue	$ 290,627	$ 245,675	$ 44,952	18.3
Ending on demand units	19,502	16,779	2,723	16.2
Average on demand units	19,191	16,642	2,549	15.3
On demand annual client value	$ 1,176,751	$ 990,800	$ 185,951	18.8
Annualized on demand revenue per ending on demand unit	$ 60.34	$ 59.05	$ 1.29	2.2 %

	Nine Months Ended September 30,			
	2020	2019	Change	% Change
	(in thousands)			
Revenue:				
On demand	$ 837,269	$ 707,341	$ 129,928	18.4 %
Professional and other	23,160	26,028	(2,868)	(11.0)
Total revenue	$ 860,429	$ 733,369	$ 127,060	17.3
Non-GAAP on demand revenue	$ 838,482	$ 707,760	$ 130,722	18.5 %

Our on demand products and services facilitate our customers' abilities to operate cost-effectively and to respond to certain of the challenges presented by the COVID-19 pandemic. Many of our products facilitate leasing-related and other transactional services with current or potential residents without person-to-person contact, benefiting both residents and our customers who are operating with significantly reduced numbers of on-site employees. There are, however, challenges to some of our revenue streams, particularly in our leasing and marketing solutions, where the uncertain economic environment coupled with protocols that inhibit person-to-person contact and normal activity levels have led to reduced transactional volumes and lower leasing velocity. Similarly, we have seen reductions in our vacation rental business due to concerns about safety of travel and the rental properties and the uncertainties around the timing of a return to a more normal environment. The change in total revenue for the three and nine months ended September 30, 2020, as compared to the same period in 2019, was due to the following:

On demand revenue: On demand revenue increased $44.6 million and $129.9 million, or 18.2% and 18.4%, respectively. These increases were attributable to growth across our platform, primarily in resident services and property management. This includes organic growth and acquired revenue from our 2019 and 2020 acquisitions.

On demand revenue generated by our property management solutions increased $10.8 million and $32.3 million, or 20.5% and 21.0%, respectively. These increases were primarily attributable to incremental revenues of $11.2 million and $33.4 million, respectively, from our 2019 acquisitions and organic growth within certain other product offerings. These increases were partially offset by lower volumes in our vacation rental and spend management businesses as a direct result of the effects of COVID-19.

On demand revenue from our resident services solutions continued to experience significant growth, increasing $25.4 million and $75.6 million, or 23.0% and 24.5%, respectively. These increases were primarily from continued strong growth of our payments solutions, as well as incremental revenue from our 2019 acquisitions of Buildium, Simple Bills, and LeaseTerm Solutions. Our payments business benefited from increased transactional volumes as residents and our clients moved towards payment mechanisms that allowed for reduced personal contact.

On demand revenue from our leasing and marketing solutions increased $4.2 million and $7.8 million, or 9.2% and 5.7%, respectively. During the three and nine months ended September 30, 2020, we recognized incremental revenues from recent acquisitions of $5.2 million and $13.7 million, respectively, that were partially offset by a reduction in leasing velocity associated with COVID-19.

On demand revenue derived from our asset optimization solutions increased $4.2 million and $14.3 million, or 11.4% and 13.1%, respectively. These increases were largely attributable to incremental revenue from our acquisition of IMS in the fourth quarter of 2019 and organic growth across our revenue management and business intelligence solutions.

On demand unit metrics: As of September 30, 2020, one or more of our on demand solutions was utilized in the management of 19.5 million rental property units, representing a year-over-year net increase of 2.7 million units, or 16.2%. This growth is primarily attributable to our 2019 and 2020 acquisitions, which accounted for approximately 11.8% of total ending on demand units, as well as organic unit growth. Annualized on demand revenue per ending on demand unit as of September 30, 2020 increased year-over-year by 2.2%, driven by expansion and adoption of our products, significantly offset by the impact of acquired units. On demand units managed by our clients renewed at an average rate of 96.2% over the trailing twelve-month period ended September 30, 2020.

Cost of Revenue

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020	2019	Change	% Change	2020	2019	Change	% Change
	(in thousands)							
Cost of revenue	$ 105,740	$ 93,351	$ 12,389	13.3 %	$ 313,486	$ 268,787	$ 44,699	16.6 %
Stock-based expense	1,754	1,425	329	23.1	6,021	4,203	1,818	43.3
Depreciation	4,003	4,007	(4)	(0.1)	11,613	11,695	(82)	(0.7)
Total cost of revenue	$ 111,497	$ 98,783	$ 12,714	12.9 %	$ 331,120	$ 284,685	$ 46,435	16.3 %

Cost of revenue, excluding stock-based expense and depreciation, increased $12.4 million and $44.7 million, or 13.3% and 16.6%, respectively. Direct costs increased $8.1 million and $27.7 million during the three and nine months ended September 30, 2020, respectively, driven by higher transaction volume from our payment processing solutions and incremental costs from our recent acquisitions. Personnel expense for the same periods increased $5.0 million and $18.2 million, respectively, primarily attributable to new employees from our recent acquisitions and investments to accelerate implementations of our product offerings. These increases were partially offset by a decline in travel expenses due to travel restrictions we implemented in response to the COVID-19 pandemic.

Amortization of Product Technologies

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020	2019	Change	% Change	2020	2019	Change	% Change
	(in thousands)							
Amortization of product technologies	$ 14,236	$ 10,315	$ 3,921	38.0 %	$ 42,539	$ 29,729	$ 12,810	43.1 %

Amortization of product technologies increased $3.9 million and $12.8 million, or 38.0% and 43.1%, respectively. Higher amortization expense was driven by the addition of developed product technologies in connection with our recent acquisitions and an increase in amortization of developed software related to investment in innovation and product solutions.

Gross profit as a percentage of total revenue increased to 57.8% from 57.3% during the three months ended September 30, 2020, predominately from greater leverage over fixed costs due to increased revenues, slightly offset by higher amortization of product technologies from our acquisitions. Gross profit as a percentage of total revenue decreased to 56.6% from 57.1% during the nine months ended September 30, 2020, primarily due to the impact of higher amortization of product technologies from our acquisitions. Excluding this impact, gross margin increased slightly.

Operating Expenses

Product development

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020	2019	Change	% Change	2020	2019	Change	% Change
	(in thousands)							
Product development	$ 29,442	$ 24,378	$ 5,064	20.8 %	$ 85,779	$ 74,647	$ 11,132	14.9 %
Stock-based expense	2,893	1,948	945	48.5	6,459	6,444	15	0.2
Depreciation	1,731	1,540	191	12.4	4,809	4,823	(14)	(0.3)
Total product development expense	$ 34,066	$ 27,866	$ 6,200	22.2 %	$ 97,047	$ 85,914	$ 11,133	13.0 %

Product development expense, excluding stock-based expense and depreciation, increased $5.1 million and $11.1 million or 20.8% and 14.9%, respectively. Personnel expense, net of capitalized software development costs, increased $6.1 million and $12.7 million during the three and nine months ended September 30, 2020, respectively. This increase was primarily attributable to incremental personnel costs from our recent acquisitions and increased product investment, partially offset by decreases associated with our efficiency initiatives implemented in 2019 to centralize our product development team and direct a greater portion of work effort towards major new development projects.

Product development expense as a percentage of total revenue increased to 11.4% from 10.9% during the three months ended September 30, 2020, primarily from increased product investment. Product development expense as a percentage of revenue decreased to 11.3% from 11.7% during the nine months ended September 30, 2020. Benefits from the organizational initiatives described above drove the year to date reduction as a percentage of revenue.

Sales and marketing

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020	2019	Change	% Change	2020	2019	Change	% Change
	(in thousands)							
Sales and marketing	$ 48,036	$ 43,975	$ 4,061	9.2 %	$ 140,644	$ 123,113	$ 17,531	14.2 %
Stock-based expense	5,658	6,358	(700)	(11.0)	13,842	18,091	(4,249)	(23.5)
Depreciation	1,869	1,573	296	18.8	5,158	4,645	513	11.0
Total sales and marketing expense	$ 55,563	$ 51,906	$ 3,657	7.0 %	$ 159,644	$ 145,849	$ 13,795	9.5 %

Sales and marketing expense, excluding stock-based expense and depreciation, increased $4.1 million and $17.5 million or 9.2% and 14.2%, respectively. Personnel expense increased $5.3 million and $17.6 million during the three and nine months ended September 30, 2020, respectively, driven by incremental headcount from our recent acquisitions and our continued investments in our sales force and product marketing team. These investments also resulted in an increase in information technology and facility related expenses of $0.9 million and $2.7 million, respectively. These increases were partially offset by a decline in marketing and travel expenses of $3.4 million and $5.8 million, respectively, driven by travel restrictions in response to the COVID-19 pandemic.

Sales and marketing expense as a percentage of total revenue decreased to 18.6% from 20.3% and to 18.6% from 19.9%, respectively. These changes were a result of the reductions in marketing and travel expenses discussed above, coupled with reduced stock compensation expense during the three and nine months ended September 30, 2020 related to the reversal of market-based restricted stock award expense associated with forfeitures.

General and administrative

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020	2019	Change	% Change	2020	2019	Change	% Change
	(in thousands)							
General and administrative	$ 30,795	$ 23,095	$ 7,700	33.3 %	$ 98,247	$ 64,632	$ 33,615	52.0 %
Stock-based expense	5,512	6,767	(1,255)	(18.5)	18,027	18,538	(511)	(2.8)
Depreciation	1,602	1,387	215	15.5	4,562	4,532	30	0.7
Total general and administrative expense	$ 37,909	$ 31,249	$ 6,660	21.3 %	$ 120,836	$ 87,702	$ 33,134	37.8 %

General and administrative expense, excluding stock-based expense and depreciation, increased $7.7 million and $33.6 million, or 33.3% and 52.0%, respectively. Personnel expenses for the three and nine months ended September 30, 2020 increased $3.6 million and $17.3 million, respectively, due to incremental headcount from recent acquisitions and investments to support our continued growth. Legal and professional expenses increased $1.8 million and $9.2 million, respectively, primarily associated with costs incurred in connection with our recent acquisitions and integration activity and increases in our accruals for legal contingencies. IT and facility related costs for the same periods increased $0.8 million and $3.5 million, respectively, primarily attributable to incremental costs from our recent acquisitions, partially offset by reduced facility costs as a result of our current work-from-home environment.

General and administrative expense as a percentage of total revenue increased to 12.7% from 12.2% and to 14.0% from 12.0%, respectively. These increases were primarily attributable to the incremental acquisition, legal and professional expenses discussed above.

Amortization of intangible assets

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020	2019	Change	% Change	2020	2019	Change	% Change
	(in thousands)							
Amortization of intangible assets	$ 11,206	$ 10,444	$ 762	7.3 %	$ 33,872	$ 30,682	$ 3,190	10.4 %

Amortization of intangible assets increased $0.8 million and $3.2 million, or 7.3% and 10.4%, respectively. These increases were a result of incremental amortization expense from the addition of finite-lived client relationship and trade name assets in connection with our recent acquisitions. The change in amortization of intangible assets as a percentage of total revenue was not material for either period shown.

Stock-based expense

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020	2019	Change	% Change	2020	2019	Change	% Change
	(in thousands)				(in thousands)			
Stock-based expense	$ 15,817	$ 16,498	$ (681)	(4.1) %	$ 44,349	$ 47,276	$ (2,927)	(6.2) %

Stock-based expense declined $0.7 million and $2.9 million, or 4.1% and 6.2%, respectively. Forfeitures of certain market-based restricted stock awards resulted in the reversal of $4.2 million of expense during the second quarter of 2020. These reversals, coupled with normal forfeiture activity during the periods, more than offset incremental awards in connection with our 2019 and 2020 acquisitions. Stock-based expense as a percent of total revenue declined to 5.3% from 6.5% and to 5.2% from 6.4%, respectively, driven by the activity discussed above.

Depreciation expense

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020	2019	Change	% Change	2020	2019	Change	% Change
	(in thousands)				(in thousands)			
Depreciation expense	$ 9,205	$ 8,507	$ 698	8.2 %	$ 26,142	$ 25,695	$ 447	1.7 %

Depreciation expense increased a nominal $0.7 million and $0.4 million, or 8.2% and 1.7%, respectively. The change in depreciation expense as a percentage of total revenue was not material for either period shown.

Interest Expense and Other, Net

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2020	2019	Change	% Change	2020	2019	Change	% Change
	(in thousands)							
Interest expense	$ (13,402)	$ (9,297)	$ (4,105)	44.2 %	$ (39,453)	$ (27,362)	$ (12,091)	44.2 %
Interest income	135	507	(372)	(73.4)	152	1,750	(1,598)	(91.3)
Change in fair value of equity investment	—	—	—	—	—	2,600	(2,600)	(100.0)
Other income	(38)	26	(64)	(246.2)	569	239	330	138.1
Total interest expense and other, net	$ (13,305)	$ (8,764)	$ (4,541)	51.8 %	$ (38,732)	$ (22,773)	$ (15,959)	70.1 %

Interest expense and other, net increased $4.5 million and $16.0 million, or 51.8% and 70.1%, respectively. Interest expense increased $4.1 million and $12.1 million, respectively, primarily due to increased borrowings under our Amended Credit Facility and our convertible debt offering that was completed in May 2020. Our 2019 results also benefited from a $2.6 million increase in the fair value of our equity investment following an observable price change during the first quarter of 2019. There was no similar event in 2020.

Provision for Taxes

We compute our provision for income taxes on a quarterly basis by applying an estimated annual effective tax rate to income from recurring operations and by calculating the tax effect of discrete items recognized during the quarter. Our effective income tax rate was 9.3% and 17.4% for the nine months ended September 30, 2020 and 2019, respectively. Our effective rate was lower than the statutory rate for the nine months ended September 30, 2020 primarily due to $5.4 million of excess tax benefits from stock-based compensation recognized as discrete items as required by ASU 2016-09.

Our effective rate was lower than the statutory rate for the nine months ended September 30, 2019, primarily due to $4.6 million of excess tax benefits from stock-based compensation recognized as discrete items as required by ASU 2016-08, partially offset by state taxes and certain non-deductible expenses.

Liquidity and Capital Resources

Our primary sources of liquidity as of September 30, 2020, consisted of $612.1 million of unrestricted cash and cash equivalents, $600.0 million available under our Revolving Facility, amounts available under the Amended Credit Facility's Accordion Feature, and $18.3 million of working capital (excluding $612.1 million of unrestricted cash and cash equivalents, $314.9 million of convertible notes, and $134.0 million of deferred revenue).

Our principal uses of liquidity have been to fund our working capital requirements, capital expenditures and acquisitions, to service our debt obligations, and to repurchase shares of our common stock. We expect that working capital requirements, capital expenditures, acquisitions, debt service, and share repurchases will continue to be our principal needs for liquidity for at least the next year. We made capital expenditures of $48.3 million, approximately 6% of total revenues, during the nine months ended September 30, 2020. We expect capital expenditures to average approximately 5% of total revenues during the next few years. In addition, we have made several acquisitions in which a portion of the purchase consideration is payable at various times through 2023, with a majority of the deferred cash obligations payable during 2020 and 2021. We expect to fund these obligations totaling approximately $32.0 million from cash provided by operating activities or funds available under our Amended Credit Facility.

In February 2020, we entered into an interest rate swap agreement to effectively convert the LIBOR-based variable interest obligation on a $100.0 million notional portion of our variable rate debt into a fixed rate obligation at a rate of 1.89% from February 2020 to September 2024. In connection with this transaction, we terminated our previous cash flow hedge relationships, which had a blended fixed rate of 2.57%, and designated the 2020 Swap Agreement under a new cash flow hedge relationship. The fair value of the 2018 Swap Agreements immediately prior to termination and of the 2020 Swap Agreement at inception was a liability of $2.5 million. Due to the COVID-19 pandemic's impact on macroeconomic trends and the resulting significant declines in LIBOR rates, the fair value of this interest rate cash flow hedge at September 30, 2020 was a liability of $6.5 million. The changes in fair value of this derivative instrument are initially recorded in accumulated other comprehensive income (loss) and are subsequently reclassified into earnings in the period that the hedged forecasted transaction affects earnings. As of September 30, 2020, we estimate that $2.4 million of the total net loss related to our swap agreement recorded in accumulated other comprehensive loss will be reclassified into earnings within the next twelve months. Because the 2020

Swap Agreement contained an other-than-insignificant financing element at its inception, the associated cash flows are reported as a financing activity in our Condensed Consolidated Statement of Cash Flows.

For the nine months ended September 30, 2020, we spent $2.7 million on computer equipment and other capital items to facilitate our shift to an almost entirely work-from-home environment, and we expect to spend up to an additional $0.3 million for this purpose during our fourth fiscal quarter. During the nine months ended September 30, 2020 we also incurred incremental operating costs totaling approximately $2.1 million in our response to COVID-19, including costs to support our work-from-home strategy, costs for temporary staffing, additional facilities expenses, and other expenses incurred to help ensure our ability to deliver uninterrupted services to our clients even in the event of a temporary decline in the availability of our internal labor force. We expect to continue to incur some of these costs in future quarters until the pandemic abates, but we currently expect such costs for the balances of the year to total less than $0.5 million. As allowed by the CARES Act, we have deferred payment of $10.1 million of employment taxes as of September 30, 2020. Under the terms of the CARES Act, we will be required to pay these and any similar amounts we defer during the fourth quarter of 2020 in two installments with half of the amount to be paid by the end of 2021 and half by the end of 2022. We made no significant changes to customer payment terms or contracts during the period, nor did we identify significant changes in customer payment behavior as a result of the COVID-19 pandemic. Nevertheless, our future operating results and related cash flows could be adversely effected if the COVID-19 pandemic continues to negatively affect the general economy in ways that cause our customers to be unable to meet their payment obligations to us in a timely manner, or to slow purchase or implementation decisions, or if a reduction in overall leasing velocity as a result of the pandemic leads to a significant reduction in our transactional revenues.

We believe that our existing cash and cash equivalents, working capital (excluding unrestricted cash and cash equivalents, convertible notes, and deferred revenue), and our cash flows from operations will be sufficient to fund our working capital requirements and planned capital expenditures, and to service our debt obligations for at least the next twelve months. Our future working capital requirements will depend on many factors, including our rate of revenue growth, the timing and size of future acquisitions, the expansion of our sales and marketing activities, the timing and extent of spending to support product development efforts, the timing of introductions of new solutions and enhancements to existing solutions, and the continuing market acceptance of our solutions. We expect to enter into acquisitions of complementary businesses, applications, or technologies in the future that could require us to seek additional equity or debt financing. Additional funds may not be available on terms favorable to us, or at all.

As of December 31, 2019, we had federal and state net operating loss ("NOL") carryforwards of $237.7 million and $97.7 million, respectively. Our federal and state NOL carryforwards may be available to offset potential payments of future income tax liabilities. If unused, the federal NOLs will begin to expire in 2026, and the state NOLs will begin to expire in 2020. Total state NOLs expiring in the next five years is approximately $1.1 million.

The following table sets forth cash flow data for the periods indicated therein:

	Nine Months Ended September 30,	
	2020	**2019**
	(in thousands)	
Net cash provided by operating activities	$ 208,061	$ 186,145
Net cash used in investing activities	$ (178,007)	$ (90,320)
Net cash provided by (used in) financing activities	$ 372,994	$ (49,841)

Net Cash Provided by Operating Activities

During the nine months ended September 30, 2020, net cash provided by operating activities consisted of net income of $33.2 million, net non-cash adjustments to net income of $173.6 million, and net changes in operating assets and liabilities of $1.2 million. Non-cash adjustments to net income primarily consisted of depreciation and amortization expense of $102.6 million, stock-based expense of $44.3 million, amortization of debt discount and issuance costs of $14.3 million, and amortization of our right-of-use assets of $10.3 million.

Changes in working capital during the nine months ended September 30, 2020 included net cash inflows from accounts receivable of $17.0 million reflecting increased collections during the period, and a $14.7 million increase in accrued compensation related expenses and other current and long-term liabilities. These items were partially offset by cash outflows for customer deposits of $14.2 million, an $11.5 million net increase in prepaid expenses and other assets, and a $4.1 million decrease in deferred revenue balances.

Net Cash Used in Investing Activities

During the nine months ended September 30, 2020, we used $178.0 million for investing activities, including $129.7 million, net of cash and restricted cash acquired, for the acquisitions of Chirp, Stratis, and Modern Message, and $48.3 million for capital expenditures. Capital expenditures during the period primarily included capitalized software development costs and expenditures to support our information technology infrastructure.

Net Cash Provided by Financing Activities

During the nine months ended September 30, 2020, we received net proceeds of $334.1 million from our May 2020 public offering of 5.85 million shares of our common stock and net proceeds of $337.5 million from our simultaneous offering of $345.0 million of convertible notes, and we paid $39.4 million to purchase capped call instruments related to the convertible notes. We used $230.0 million of the offering proceeds to retire all amounts then outstanding under our revolving credit facility. We also made principal payments on our Term Loans, payments of finance lease obligations and payments of acquisition-related consideration of $11.3 million, $2.5 million and $12.3 million, respectively, and other net payments of $3.3 million primarily related to our stock-based compensation plans.

Contractual Obligations, Commitments, and Contingencies

The following table summarizes, as of September 30, 2020, our minimum payments, including interest when applicable, for long-term debt and other obligations for the next five years and thereafter:

	Payments Due by Period				
	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
			(in thousands)		
Convertible Notes [1]	$ 728,764	$ 10,307	$ 363,107	$ 355,350	$ —
Term Loans [2]	621,457	39,873	93,386	488,198	—
Operating and finance lease obligations	181,164	22,309	44,068	37,299	77,488
Acquisition-related liabilities [3]	32,005	27,730	4,275	—	—
	$ 1,563,390	$ 100,219	$ 504,836	$ 880,847	$ 77,488

(1) Represents the aggregate principal amount of $690.0 million related to our 2022 and 2025 Convertible Notes, and anticipated coupon interest payments related to these convertible notes. The unamortized discounts and debt issuance costs associated with these convertible notes that are reflected in our Condensed Consolidated Balance Sheets are excluded from this table.

(2) Represents the contractually required principal payments for our Term Loan and Delayed Draw Term Loan. These amounts exclude unamortized debt issuance costs reflected in our Condensed Consolidated Balance Sheets. These amounts also include the anticipated interest obligations under our Amended Credit Facility, which were estimated using a LIBOR forward rate curve and include the related effect of our interest rate swap agreement.

(3) Represents obligations in connection with our acquisitions comprised of undiscounted amounts payable for our deferred cash obligations. These amounts exclude contingent consideration for our acquisitions of up to $35.3 million with a fair value of $9.5 million, and potential reductions related to the sellers' indemnification obligations.

Credit Facility

The Amended Credit Facility matures on September 5, 2024 (subject to early maturity provisions in certain circumstances, as described below), and includes the following:

Revolving Facility: The Amended Credit Facility provides $600.0 million in aggregate commitments for secured revolving loans, with sublimits of $10.0 million for the issuance of letters of credit and $20.0 million for swingline loans ("Revolving Facility"). During the second quarter of 2020, we repaid the previous amount outstanding under the revolving facility.

Initial Term Loan: An initial term loan of $300.0 million was borrowed on the closing date for the Amended Credit Facility (the "Term Loan"). The proceeds of the Term Loan were used to repay the term loan balances outstanding under the 2014 Credit Facility.

Delayed Draw Term Loan: In December 2019, we drew funds of $300.0 million available under the delayed draw term loan ("Delayed Draw Term Loan").

Revolving loans under the Amended Credit Facility may be voluntarily prepaid and re-borrowed. Principal payments on the Term Loan and Delayed Draw Term Loan (collectively, the "Term Loans") are due in quarterly installments equal to an initial amount of $3.8 million, which increases to $7.5 million beginning on December 31, 2020, increases to $11.3 million beginning on December 31, 2022, and increases to $15.0 million beginning on December 31, 2023. Once repaid or prepaid, the Term Loans may not be re-borrowed. All outstanding principal and accrued but unpaid interest is due, and the commitments for the

Revolving Facility terminate, on the maturity date. The Term Loans are subject to mandatory repayment requirements in the event of certain asset sales or if certain insurance or condemnation events occur, subject to customary reinvestment provisions. We may prepay the Term Loans in whole or in part at any time without premium or penalty.

Accordion Feature: The Amended Credit Facility also allows us, subject to certain conditions, to request additional term loan commitments and/or additional revolving commitments in an aggregate principal amount of up to the greater of $250.0 million or 100% of consolidated EBITDA (as defined within the Amended Credit Facility) for the most recent four fiscal quarters, plus an amount that would not cause our Senior Leverage Ratio, as defined below, to exceed 3.50 to 1.00.

All outstanding revolving loans and term loans under the Amended Credit Facility mature on September 5, 2024. If on or prior to August 16, 2022, we have failed to demonstrate to the Agent that we would be in compliance with each financial covenant after giving pro forma effect to the repayment in full of the 2022 Convertible Notes which mature on November 15, 2022, then the Amended Credit Facility will mature on August 16, 2022. In addition, if on any business day during the period beginning on August 16, 2022 until the 2022 Convertible Notes are paid in full, our available liquidity is less than an amount equal to 125% of the outstanding principal amount of the 2022 Convertible Notes, then amounts outstanding under the Amended Credit Facility are due the next business day

Refer to Note 8 of the accompanying Condensed Consolidated Financial Statements for further discussion of the Amended Credit Facility, including its terms and conditions.

Convertible Notes

2025 Convertible Notes

In May 2020, we issued convertible senior notes with an aggregate principal amount of $345.0 million which will mature on May 15, 2025. The 2025 Convertible Notes were issued pursuant to an Indenture dated May 22, 2020, by and between us and U.S. Bank National Association, as Trustee. We received net proceeds from the offering of approximately $337.5 million after adjusting for debt issuance costs, including the underwriting discount.

The 2025 Convertible Notes accrue interest at a rate of 1.50% per year until maturity, payable semi-annually in arrears on May 15 and November 15 of each year, beginning on November 15, 2020. On or after February 15, 2025 until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert at their option all or any portion of their 2025 Convertible Notes at the then applicable conversion rate. Prior to February 15, 2025, holders may convert their notes, and we may redeem the 2025 Convertible Notes, under certain circumstances specified in the Indenture. The 2025 Convertible Notes are convertible at an initial rate of 13.04 shares of our common stock per $1,000 of principal amount of 2025 Convertible Notes (equivalent to an initial conversion price of approximately $76.70 per share of our common stock). Upon conversion, we will pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election. Upon any conversion of the 2025 Convertible Notes, it is our current intent to settle the first $1,000 of conversion value for each $1,000 principal amount of the 2025 Convertible Notes through combination settlement, which involves repayment of the principal portion in cash and any excess of the conversion value over the principal amount in shares of our common stock.

In conjunction with the 2025 Convertible Notes offering, we purchased the Capped Calls initially covering approximately 5.8 million shares of our common stock at a cost of $39.4 million. The Capped Calls are subject to anti-dilution provisions substantially similar to those of the 2025 Convertible Notes, have a strike price of approximately $76.70 per share, are subject to a cap price of $118 per share, are exercisable by us upon any conversion under the 2025 Convertible Notes, and expire on May 15, 2025. The Capped Calls are generally expected to reduce the potential dilution to our common stock (or, in the event the conversion is settled in cash, to reduce our cash payment obligation) in the event that at the time of conversion our stock price exceeds the conversion price under the 2025 Convertible Notes.

2022 Convertible Notes

In May 2017, we issued convertible senior notes with an aggregate principal amount of $345.0 million which will mature on November 15, 2022. The 2022 Convertible Notes were issued pursuant to an indenture dated May 23, 2017, by and between us and Wells Fargo Bank, N.A., as Trustee. We received net proceeds from the offering of approximately $304.2 million after adjusting for debt issuance costs, including the underwriting discount, the net cash used to purchase the Note Hedges and the proceeds from the issuance of the Warrants which are discussed below.

The 2022 Convertible Notes accrue interest at a rate of 1.50% per year until maturity, payable semi-annually in arrears on May 15 and November 15 of each year. On or after May 15, 2022 until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert at their option all or any portion of their 2022 Convertible Notes at the then applicable conversion rate. Prior to May 15, 2022, holders may convert their notes under certain circumstances specified in the indenture. The 2022 Convertible Notes are convertible at an initial rate of 23.84 shares of our common stock per $1,000 of principal amount of 2022 Convertible Notes (equivalent to an initial conversion price of approximately $41.95 per share of our common stock). Upon conversion, we will pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock, at our election. Upon any conversion of the 2022 Convertible Notes, it is our current intent to settle the first $1,000 of conversion value for each $1,000 principal amount of the 2022 Convertible Notes through combination settlement, which involves repayment of the principal portion in cash and any excess of the conversion value over the principal amount in shares of our common stock.

In conjunction with the 2022 Convertible Notes offering, we purchased Note Hedges and issued Warrants initially covering approximately 8.2 million shares of our common stock. We paid $62.5 million to purchase the Note Hedges and received proceeds of $31.5 million from the issuance of the Warrants. The Note Hedges have an exercise price of $41.95 per share, consistent with the conversion price of the 2022 Convertible Notes, and expire in November 2022. The Note Hedges are generally expected to reduce the potential dilution to our common stock (or, in the event the conversion is settled in cash, to reduce our cash payment obligation) in the event that at the time of conversion our stock price exceeds the conversion price under the 2022 Convertible Notes. The Warrants have a strike price of $57.58 per share and expire in ratable portions on a series of expiration dates commencing on February 15, 2023.

Refer to Note 8 of the accompanying Condensed Consolidated Financial Statements for further discussion of these transactions and their accounting implications.

Other than the matters discussed above, there have been no other material changes outside normal operations in our contractual obligations from our disclosures in our Annual Report on Form 10-K.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet financing arrangements, and we do not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of fluctuations in interest rates and foreign currency exchange risks. We do not hold or issue financial instruments for trading purposes.

Interest Rate Risk

We had unrestricted cash and cash equivalents of $612.1 million and $197.2 million at September 30, 2020 and December 31, 2019, respectively. We hold cash and cash equivalents for working capital purposes. We do not have material exposure to market risk with respect to investments, as our investments consist primarily of highly liquid investments purchased with original maturities of three months or less.

We had $585.0 million and $596.3 million outstanding under our Term Loans at September 30, 2020 and December 31, 2019, respectively. We had $230.0 million outstanding under our Revolving Facility at December 31, 2019. We did not have any outstanding borrowings under our Revolving Facility at September 30, 2020. At our option, amounts borrowed under the Amended Credit Facility accrue interest at a per annum rate equal to either LIBOR, plus a margin ranging from 1.00% to 2.00%, or the Base Rate, plus a margin ranging from 0.00% to 1.00% (“Applicable Margin”). The base LIBOR rate is, at our discretion, equal to either one, three, or six month LIBOR. The Base Rate is defined as the greater of Wells Fargo’s prime rate, the Federal Funds Rate plus 0.50%, or one month LIBOR plus 1.00%. In each case, the Applicable Margin is determined based upon our consolidated net leverage ratio.

On December 24, 2018, we entered into two interest rate swap agreements (collectively the “2018 Swap Agreements”). The 2018 Swap Agreements covered an aggregate notional amount of $100.0 million from December 2018 to February 2022 by replacing the obligation’s variable rate with a blended fixed rate of 2.57%. We designated the 2018 Swap Agreements as cash flow hedges of interest rate risk.

On February 10, 2020, we entered into an interest rate swap agreement (the “2020 Swap Agreement”) that covers an aggregate notional amount of $100.0 million from February 2020 to September 2024 by replacing the obligation’s variable rate with a blended rate of 1.89%. In connection with this transaction, we terminated the 2018 Swap Agreements cash flow hedge relationship on a prospective basis and designated the 2020 Swap Agreement under a new cash flow hedge relationship. The fair value of the 2018 Swap Agreements immediately prior to termination was a liability of $2.5 million. Because the forecasted transactions that the 2018 Swap Agreements were designated to hedge are still probable to occur, the unrealized loss will be reclassified into earnings through September 2024. The 2020 Swap Agreement is designated as a cash flow hedge of interest rate risk.

If the applicable variable interest rates changed by 50 basis points, our expected annual interest expense as of September 30, 2020, would change by approximately $3.1 million.

Foreign Currency Exchange Risk

We have foreign currency risks related to certain of our foreign subsidiaries, primarily in the Philippines and in India. The functional currency of these foreign subsidiaries is the U.S. dollar. The local currencies of these foreign subsidiaries are the Philippine peso and India rupee. Operating expenses in these foreign subsidiaries are primarily denominated in the respective local currencies and are remeasured into our reporting currency at the average exchange rate in effect during the month. As of September 30, 2020, we entered into foreign currency exchange forward contracts with an aggregate notional amount of $14.9 million to protect a portion of our forecasted U.S. dollar-equivalent operating expenses from adverse changes in foreign currency exchange rates. These hedging contracts reduce, but do not entirely eliminate, the impact of adverse foreign currency exchange rate movements. These contracts are designated as cash flow hedges for accounting purposes. For additional details, see Note 15 of the accompanying Condensed Consolidated Financial Statements.

We also enter into foreign currency forward contracts to hedge fluctuations associated with foreign currency denominated monetary assets and liabilities, primarily associated with our lease liabilities. These forward contracts are not designated for hedge accounting treatment. Accordingly, the change in fair value of these derivatives is recorded as a component of "General and administrative" in the accompanying Condensed Consolidated Statements of Operations and offsets the change in fair value of the foreign currency denominated assets and liabilities, which are also recorded in "General and administrative." As of September 30, 2020, the notional amounts of outstanding foreign currency contracts entered into under our balance sheet hedge program was $2.2 million. The effect of derivatives not designated as hedge instruments for the period ended September 30, 2020 was de minimis.

Adverse changes in exchange rates of 10% would have resulted in an adverse impact on income before income taxes as reported in the accompanying Condensed Consolidated Statement of Operations of approximately $1.6 million at September 30, 2020. These reasonably possible adverse changes in exchange rates of 10% were applied to total monetary assets and liabilities denominated in currencies other than the functional currencies of our subsidiaries at the balance sheet date to compute the impact these changes would have had on our income before income taxes in the near term.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Pursuant to Rule 13a-15(b) and Rule 15d-15(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), we carried out an evaluation, with the participation of our management, and under the supervision of our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined under Rule 13a-15(e) and 15d-15(e) under the Exchange Act) as of September 30, 2020. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of September 30, 2020, in ensuring that information required to be disclosed in the reports that we file or submit under the Exchange Act, is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. Management's assessment of the effectiveness of our disclosure controls and procedures is expressed at the level of reasonable assurance because management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives.

Changes in Internal Controls

There have been no changes in our internal control over financial reporting that occurred during the quarter ended September 30, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations of Internal Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal controls will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

We are subject to legal proceedings and claims arising in the ordinary course of business. We are involved in litigation and other legal proceedings and claims, including purported class action lawsuits, that have not been fully resolved. At this time, we believe that any reasonably possible adverse outcome of such matters would not be material either individually or in the aggregate. Our view of these matters may change in the future as litigation and events related thereto unfold.

Item 1A. Risk Factors.

In addition to the other information set forth in this Quarterly Report on Form 10-Q, you should carefully consider the factors discussed in Part I, "Item 1A Risk Factors" in our Annual Report on Form 10-K, which could materially adversely affect our business, financial condition or future results. The risks described in our Annual Report on Form 10-K are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and/or results of operations. Other than as reflected in the following risk factors, there were no material changes to the Risk Factors previously disclosed in Part I, "Item 1A Risk Factors" in our Annual Report on Form 10-K.

The COVID-19 pandemic and its effects could adversely impact our business, results of operations, liquidity and financial condition, and the magnitude and timing of such impact is highly uncertain and difficult to predict.

Global health concerns from the COVID-19 pandemic and related government actions have caused significant disruption to the global economic environment. The pandemic has significantly increased economic uncertainty and reduced economic activity, including consumer and business spending, and leasing velocity within the rental housing industry. In response to the pandemic, government authorities have implemented numerous measures designed to contain the spread of the disease, including travel bans and restrictions, quarantines, shelter-in-place and lockdown orders, and business limitations and shutdowns. Federal and state governments have also taken actions and provided stimulus to address the adverse economic effects of the COVID-19 pandemic on businesses and individuals, such as unemployment assistance, business loan programs and other measures. The extent to which the COVID-19 pandemic will impact our operations and financial condition will depend upon future developments which are uncertain and difficult to predict, including the scope, severity and duration of the pandemic and the success of the actions taken to contain the pandemic and mitigate its impact.

The COVID-19 pandemic is adversely impacting residents of rental properties and their ability or willingness to fully meet their obligations to our customers, which in turn may adversely impact our customers' ability or willingness to meet their obligations to us or may cause them to otherwise seek modifications to their obligations to us. Delays or failures by government entities in extending economic stimulus and support programs designed to assist individuals and businesses, or delays or failures in modifying such programs to successfully mitigate the hardships caused by the pandemic, could adversely impact residents and businesses who rely upon these programs, and their ability or willingness to meet their obligations to our customers. The impact of any such developments could result in increases in uncollectible receivables or delays in payment to us by our customers. These conditions could also adversely affect the rate of overall technology spending and influence the timing of our customers' and prospective customers' technology purchasing and implementation decisions, which could adversely affect their ability or willingness to purchase our solutions, delay purchasing decisions, reduce the value or duration of subscriptions, negatively affect our renewal rates and churn, negatively affect certain of our products associated with leasing velocity such as but not limited to screening, renters insurance, and payments, or result in a decrease in the number of end users of our solutions or the transactions performed using our solutions, any of which could adversely affect our operating results and financial condition on a short-term or longer-term basis.

To support the health and wellbeing of our employees, customers, partners and communities and in compliance with governmental restrictive orders in the locations in which we have offices, a significant majority of our employees are currently working remotely. Although such changes did not have a material adverse impact on our business and financial results for the nine months ended September 30, 2020 and we have been able to effectively operate and provide services and meet our obligations to our customers, if we are not able to continue to respond to and manage these impacts and related changes, our business, results of operations, liquidity and financial condition could be adversely impacted. Furthermore, remote work and the use of our business continuity plans over an extended period could impair or delay our ability to sell our solutions, adversely impact our product development and harm productivity and collaboration. We may also take further actions as may be required by government authorities or as we determine are in the best interests of our employees, customers and business partners which could adversely impact our business.

Many of our customers and vendors are also working remotely, which may delay the timing of orders, implementations, or deliveries. The disruptions to our operations caused by the COVID-19 pandemic may result in inefficiencies, delays and additional costs in our product development, sales, marketing and customer service efforts that we cannot fully mitigate due to the current economic conditions or other unpredictable aspects of the pandemic on our customers and vendors.

The pandemic also raises the possibility of an extended global economic downturn, and there has been significant volatility in the financial markets. As a result, our results and financial condition could adversely be impacted even after the pandemic is mitigated or contained and governmental restrictions are suspended or terminated. For example, our customers may continue to experience economic pressures and we may be unable to collect receivables from customers impacted by COVID-19, or such customers may request alternative payment structures that could adversely impact our results. A decrease in orders in a given period could also negatively impact our revenues in future periods because a substantial portion of our services generate revenue recognized over time. Moreover, we may experience materially adverse impacts as a result of the global economic impact, including reduced spending, lower economic activity and weakened banking and financial systems.

Other factors related to the COVID-19 pandemic that may adversely impact our business operations include:

- service interruptions or impaired system performance due to failures of or delays in our systems or resources;
- the possibility that one or more clusters of COVID-19 cases could occur at one of our locations, data centers or other third-party providers, affecting our employees or affecting the systems or employees of our customers or other third parties on which we depend; or
- challenges to our systems supporting our remote workforce, due to the higher demand on such systems and the hardware needed to support such working conditions.

There are no comparable recent events that provide guidance as to the effect the spread of COVID-19 as a global pandemic may have, and, as a result, the ultimate impact of the pandemic is highly uncertain and subject to change. We do not yet know the full extent of the impacts on our business, our operations or the global economy. The pandemic may have the effect of increasing the severity and likelihood of the risks listed below and the other risks described in our “Risk Factors” section in our Annual Report on Form 10-K.

Our quarterly operating results have fluctuated in the past and may fluctuate in the future, which could cause our stock price to decline.

Our quarterly operating results may fluctuate as a result of a variety of factors, many of which are outside of our control. Fluctuations in our quarterly operating results may be due to a number of factors, including the risks and uncertainties discussed elsewhere in this filing and in the “Risk Factors” section in our Annual Report on Form 10-K. Some of the important factors that could cause our revenues and operating results to fluctuate from quarter to quarter include:

- the impact of the COVID-19 pandemic on our business, our customers, and the general economic impact of the pandemic in the short and longer term;
- general economic, industry and market conditions in the rental housing industry that impact our current and potential clients, including the impact of the COVID-19 pandemic;
- the extent to which on demand software solutions maintain market acceptance;
- fluctuations in leasing activity by our clients;
- our ability to timely introduce enhancements to our existing solutions and new solutions;
- our ability to renew the use of our on demand solutions for units managed by our existing clients and to increase the use of our on demand solutions for the management of units by our existing and new clients;
- changes in our pricing policies or those of our competitors or new competitors;
- the variable nature of our sales and implementation cycles;
- our ability to anticipate and adapt to external forces and the emergence of new technologies and products;
- our ability to enter into new markets and capture additional market share;
- our ability to integrate acquisitions in a cost-effective and timely manner;
- the timing of revenue and expenses related to recent and potential acquisitions or dispositions of businesses or technologies;
- changes in local economic, political and regulatory environments of our international operations including as a result of the COVID-19 pandemic;
- the amount and timing of our investment in research and development activities;

- technical difficulties, service interruptions, data or document losses or security breaches;
- our ability to hire and retain qualified key personnel, including particular key positions in our sales force and IT department;
- changes in the legal, regulatory or compliance environment related to the rental housing industry or the markets in which we operate, including without limitation changes related to fair credit reporting, payment processing, data protection and privacy, utility billing, insurance, the Internet and e-commerce, licensing, telemarketing, electronic communications, consumer protection, the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), the Health Information Technology Economic and Clinical Health Act (“HITECH”), and state and local laws related to rent control or regulation;
- the amount and timing of operating expenses and capital expenditures related to the expansion of our operations and infrastructure;
- increase in the number or severity of insurance claims on policies sold by us;
- litigation and settlement costs, including unforeseen costs;
- new accounting pronouncements and changes in accounting standards or practices, particularly any affecting the recognition of subscription revenue or accounting for mergers and acquisitions; and
- changes in tax policy in the United States and globally that affect the deductibility of certain expenses and how our profits are taxed.

Fluctuations in our quarterly operating results or guidance that we provide may lead analysts to change their long-term models for valuing our common stock, cause us to face short-term liquidity issues, impact our ability to retain or attract key personnel or cause other unanticipated issues, all of which could cause our stock price to decline. As a result of the potential variations in our quarterly revenue and operating results, we believe that quarter-to-quarter and year-to-date period comparisons of our revenues and operating results may not be meaningful and the results of any one quarter should not be relied upon as an indication of future performance.

Variability in our sales and activation cycles could result in fluctuations in our quarterly results of operations and cause our stock price to decline.

The sales and activation cycles for our solutions, from initial contact with a prospective client to contract execution and activation, vary widely by client and solution. We do not recognize revenue until the solution is activated. While most of our activations follow a set of standard procedures, a client’s priorities or other factors may delay activation and our ability to recognize revenue, which could result in fluctuations in our quarterly operating results. Additionally, certain of our products are offered in suites containing multiple solutions, resulting in additional fluctuation in activations depending on each client’s priorities and our own processes related to solutions included in the suite. The COVID-19 pandemic could also adversely affect the rate of technology spending and demand for our solutions, and delay or otherwise influence the timing of purchasing decisions and sales and activation cycles by our existing or prospective customers.

Economic trends that affect the rental housing market may have a negative effect on our business.

Our clients include a range of organizations whose success is closely linked to the rental housing market. Economic trends that negatively or positively affect the rental housing market or the impact of the COVID-19 pandemic may adversely affect our business. Instability or downturns affecting the rental housing market may have a material adverse effect on our business, prospects, financial condition and results of operations by:

- decreasing demand for leasing and marketing solutions;
- reducing the number of occupied sites and units on which we earn revenue;
- preventing our clients from expanding their businesses and managing new properties;
- causing our clients to reduce spending on our solutions;
- subjecting us to increased pricing pressure in order to add new clients and retain existing clients;
- causing our clients to switch to lower-priced solutions provided by our competitors or internally developed solutions;
- delaying or preventing our collection of outstanding accounts receivable; and
- causing payment processing losses related to an increase in client insolvency.

In addition, economic trends that reduce the frequency of renter turnover or the quantity of new renters may reduce the number of rental transactions completed by our clients and may, as a result, reduce demand for our rental, leasing or marketing transaction specific services. The economic effect of the COVID-19 pandemic on the rental housing industry could provide further pressure on our customers who rely upon residents for rental and other payments and leasing activity through which they earn revenue.

We may not be able to continue to add new clients and retain and increase sales to our existing clients, which could adversely affect our operating results.

Our revenue growth is dependent on our ability to continually attract new clients while retaining and expanding our service offerings to existing clients. Growth in the demand for our solutions may be inhibited and we may be unable to sustain growth in our sales for a number of reasons, including, but not limited to:

- the economic effects of the COVID-19 pandemic upon our clients and their demand for our service offerings;
- our failure to develop new or additional solutions;
- our inability to market our solutions in a cost-effective manner to new clients or in new vertical or geographic markets;
- our inability to expand our sales to existing clients;
- our inability to build and promote our brand; and
- perceived or actual security, integrity, reliability, quality or compatibility problems with our solutions.

A substantial amount of our past revenue growth was derived from purchases of upgrades and additional solutions by existing clients. Our costs associated with increasing revenue from existing clients are generally lower than costs associated with generating revenue from new clients. Therefore, a reduction in the rate of revenue increase from our existing clients, even if offset by an increase in revenue from new clients, could reduce our profitability and have a material adverse effect on our operating results.

Any disruption of service at our data centers or other facilities could interrupt or delay our clients' access to our solutions, which could harm our operating results.

The ability of our clients to access our service is critical to our business. We host our products and services, support our operations and service our clients primarily from data centers in the Dallas, Texas area, but also from data centers located elsewhere in the United States and in Europe.

We may fail to provide such service as a result of numerous factors, many of which are beyond our control, including, without limitation: mechanical failure, power outage, the impact of the COVID-19 pandemic, human error, physical or electronic security breaches, war, terrorism and related conflicts or similar events worldwide, fire, earthquake, hurricane, flood and other natural disasters, sabotage and vandalism. We attempt to mitigate these risks at our Texas-based data centers and other facilities through various business continuity efforts, including: redundant infrastructure, 24 x 7 x 365 system activity monitoring, backup and recovery procedures, use of a secure off-site storage facility for backup media, separate test systems and rotation of management and system security measures, but our precautions may not protect against all potential problems. Disaster recovery procedures are in place to facilitate the recovery of our operations, products and services within the stated service level goals. Our secondary data center is equipped with physical space, power, storage and networking infrastructure and Internet connectivity to support the solutions we provide in the event of the interruption of services at our primary data center. Even with this secondary data center, however, our operations would be interrupted during the transition process should our primary data center experience a failure. Moreover, both our primary and secondary data centers are located in the greater metropolitan Dallas area. As a result, any regional disaster could affect both data centers and result in a material disruption of our services.

Problems at one or more of our data centers, whether or not within our control, could result in service disruptions or delays or loss or corruption of data or documents. This could damage our reputation, cause us to issue credits to clients, subject us to potential liability or costs related to defending against claims, or cause clients to terminate or elect not to renew their agreements, any of which could negatively impact our revenues and harm our operating results.

We provide service level commitments to our clients, and our failure to meet the stated service levels could significantly harm our revenue and our reputation.

Our client agreements provide that we maintain certain service level commitments to our clients relating primarily to product functionality, network uptime, critical infrastructure availability and hardware replacement. For example, our service level agreements generally require that our solutions are available 98% of the time during coverage hours (normally 6:00 a.m. though 10:00 p.m. Central time daily) 365 days per year (other than certain permitted exceptions such as maintenance). If we are unable to meet the stated service level commitments, we may be contractually obligated to provide clients with refunds or credits. Additionally, if we fail to meet our service level commitments a specified number of times within a given time frame or for a specified duration, our clients may terminate their agreements with us or extend the term of their agreements at no additional fee. As a result, a failure to deliver services for a relatively short duration could cause us to issue credits or refunds to a large number of affected clients or result in the loss of clients. In addition, we cannot assure that our clients will accept these credits, refunds, termination or extension rights in lieu of other legal remedies that may be available to them. Our failure to meet our commitments could also result in substantial client dissatisfaction or loss. Because of the loss of future revenues through the issuance of credits or the loss of clients or other potential liabilities, our revenue could be significantly impacted if we cannot meet our service level commitments to our clients. Although we were able to effectively service our customers and meet our service level obligations during the first nine months of 2020 after implementing changes to our work environments as a result of the COVID-19 pandemic, including working from home in response to governmental orders and safety considerations related to our employees and customers, if we are not able to continue to respond to and manage these impacts and related changes, our business, results of operations, liquidity and financial condition could be adversely impacted.

If we fail to maintain proper and effective internal controls, our ability to produce accurate and timely financial statements could be impaired, which could harm our operating results, our ability to operate our business and investors' views of us.

Ensuring that we have adequate internal financial and accounting controls and procedures so that we can produce accurate financial statements on a timely basis is a costly and time-consuming effort that needs to be re-evaluated frequently. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with United States generally accepted accounting principles. We are required to comply with Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, which requires annual management assessment of the effectiveness of our internal control over financial reporting and a report by our independent auditors. As of September 30, 2019, we identified a material weakness in our internal control over financial reporting which was disclosed in our Form 10-Q for the quarter ended September 30, 2019. The material weakness resulted from certain individual control deficiencies related to our information technology general controls ("ITGCs") that, when viewed in combination, aggregated to a material weakness. This material weakness was remediated during the quarter ended June 30, 2020. If we fail to maintain proper and effective internal controls in the future, our ability to produce accurate and timely financial statements could be impaired, which could harm our operating results, harm our ability to operate our business and reduce the trading price of our stock.

Transactions relating to our Convertible Notes may adversely affect our financial condition and operating results.

Holders of the Convertible Notes are entitled to convert the Convertible Notes under certain conditions for specified periods at their option prior to the scheduled maturities of the Convertible Notes. When holders elect to convert their Convertible Notes, unless we elect to satisfy our conversion obligation by delivering solely shares of our common stock (other than paying cash in lieu of delivering any fractional share), we are required to settle a portion or all of our conversion obligations through the payment of cash, which could adversely affect our liquidity. In addition, even if holders do not elect to convert their Convertible Notes, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principals of the Convertible Notes as a current rather than long-term liability, which would result in a material reduction of our net working capital.

The accounting method for convertible debt securities that may be settled in cash, such as the Convertible Notes, could have a material effect on our reported financial results.

In May 2008, the Financial Accounting Standards Board ("FASB") issued FASB Staff Position No. APB 14-1, Accounting for Convertible Debt Instruments That May Be Settled in Cash Upon Conversion (Including Partial Cash Settlement), which has subsequently been codified as Accounting Standards Codification 470-20, Debt with Conversion and Other Options, which we refer to as ASC 470-20. Under ASC 470-20, an entity must separately account for the liability and equity components of convertible debt instruments, such as the Convertible Notes, that may be settled entirely or partially in cash upon conversion in a manner that reflects the issuer's economic interest cost. The effect of ASC 470-20 on the accounting for the Convertible Notes is that the equity components are required to be included in the additional paid-in capital section of stockholders' equity on our Consolidated Balance Sheets, and the value of the equity components are treated as original issue discounts for purposes of accounting for the debt components of the Convertible Notes. As a result, we are required to record a greater amount of non-cash interest expense in current periods presented as a result of the amortization of the discounted carrying values of the Convertible Notes to their face amounts over the terms of the Convertible Notes. This adversely affects our reported financial results and could adversely affect the trading price of our common stock.

In addition, under certain circumstances, convertible debt instruments, such as the Convertible Notes, that may be settled entirely or partly in cash are currently accounted for utilizing the treasury stock method, the effect of which is that the shares issuable upon conversion of the Convertible Notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of the Convertible Notes exceeds their principal amounts. Under the treasury stock method, for diluted earnings per share purposes, the transaction is accounted for as if the number of shares of common stock that would be necessary to settle such excess, if we elected to settle such excess in shares, are issued.

In August 2020, the FASB issued ASU 2020-06,*Debt - Debt with Conversion and Other Options (Subtopic 470-20)*and *Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity*. This ASU will eliminate the requirement described above to separate convertible notes into debt and equity components, instead allowing for these instruments to be accounted for as a single liability measured at its amortized cost. Furthermore, this ASU will require the use of the if-converted method when determined diluted earnings per share. These changes, once adopted, will reduce our reported interest expense and increase our reported net income when compared to our results calculated under existing accounting guidance. This standard may adversely impact our reported diluted shares outstanding and our diluted earnings per share in certain periods because of the required use of the if-converted method. ASU 2020-06 will be effective for fiscal years beginning after December 15, 2021, with early adoption permitted for interim and annual reporting periods beginning after December 15, 2020. We currently expect to early adopt this ASU effective January 1, 2021 and are still assessing our method of adoption.

A significant decline in our cash flow could impair our ability to make payments under our debt obligations.

If we experience a decline in cash flow due to any of the factors described in this "Risk Factors" section, the "Risk Factors" in our Form 10-K or otherwise, we could have difficulty paying interest and principal amounts due on our indebtedness and meeting the financial covenants set forth in our Amended Credit Facility. If we are unable to generate sufficient cash flow or otherwise obtain the funds necessary to make required payments under our Amended Credit Facility or the respective indentures from the 2022 and 2025 Convertible Notes, or if we fail to comply with the requirements of our indebtedness, we could default under our Amended Credit Facility or respective Convertible Notes indentures. Any default that is not cured or waived could result in the termination of the revolving commitments, the acceleration of the obligations under the Amended Credit Facility or respective Convertible Notes indentures, an increase in the applicable interest rate under the Amended Credit Facility and a requirement that our subsidiaries that have guaranteed the Amended Credit Facility pay the obligations in full, and would permit our lenders to exercise remedies with respect to all of the collateral that is securing the Amended Credit Facility, including substantially all of our and our subsidiary guarantors' assets. Any such default could have a material adverse effect on our liquidity and financial condition.

The Capped Calls, Note Hedges and Warrant transactions may affect the value of our common stock.

In connection with the pricing of the Convertible Notes issued in May 2017 and May 2020, we entered into hedging transactions (the Capped Calls and Note Hedges, collectively referred to as the "Note Hedge Instruments") with the option counterparties. We also entered into Warrant transactions with the May 2017 option counterparties. The Note Hedge Instruments are expected, subject to certain limits in the case of the Capped Calls, to reduce the potential dilution upon conversion of the Convertible Notes and/or offset any cash payments we are required to make in excess of the principal amount of Convertible Notes once converted, as the case may be. However, the Warrants could separately have a dilutive effect on our common stock to the extent that the market price per share of our common stock exceeds the strike price of the Warrants.

In connection with establishing their initial hedges of the Note Hedge Instruments and Warrants, the option counterparties or their respective affiliates expected to enter into various derivative transactions with respect to our common stock concurrently with or shortly after the pricing of the Convertible Notes issued in May 2017 and May 2020. The option counterparties or their respective affiliates may modify any such hedge positions by entering into or unwinding various derivatives with respect to our common stock and/or purchasing or selling our common stock or other securities of ours in secondary market transactions prior to the maturity of the Convertible Notes (and are likely to do so during any observation period related to a conversion of the Convertible Notes). This activity could also cause or avoid an increase or a decrease in the market price of our common stock.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

(a) Unregistered Sales of Equity Securities

There were no unregistered sales of equity securities during the three months ended September 30, 2020.

(c) Purchases of Equity Securities

There was no share repurchase activity during the three months ended September 30, 2020.

Item 6. Exhibits.

The exhibits required to be furnished pursuant to Item 6 are listed in the following Exhibit Index.

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated by Reference Form	Date	Number	Included Herewith
3.1	Amended and Restated Certificate of Incorporation of the Registrant, as amended	10-Q	8/6/2018	3.1	
3.2	Amended and Restated Bylaws of the Registrant	S-1/A	7/26/2010	3.4	
4.1	Form of Common Stock certificate of the Registrant	S-1/A	7/26/2010	4.1	
4.2	Shareholders' Agreement among the Registrant and certain stockholders, dated December 1, 1998, as amended July 16, 1999 and November 3, 2000	S-1	4/29/2010	4.2	
4.3	Second Amended and Restated Registration Rights Agreement among the Registrant and certain stockholders, dated February 22, 2008	S-1	4/29/2010	4.3	
4.4	Indenture between the Registrant and Wells Fargo Bank, National Association, dated May 23, 2017	10-Q	8/4/2017	4.4	
4.5	Form of Global Note to represent the 1.50% Convertible Senior Notes due 2022, of the Registrant	10-Q	8/4/2017	4.5	
4.6	Form of Warrant Confirmation in connection with 1.50% Convertible Senior Notes due 2022, of the Registrant	10-Q	8/4/2017	4.6	
4.7	Form of Call Option Confirmation in connection with 1.50% Convertible Senior Notes due 2022, of the Registrant	10-Q	8/4/2017	4.7	
4.8	Indenture between Registrant and U.S. Bank National Association, dated as of May 22, 2020	8-K	5/22/2020	4.1	
4.9	Supplemental Indenture between Registrant and U.S. Bank National Association, dated as of May 22, 2020	8-K	5/22/2020	4.2	
4.10	Form of Global Note to represent 1.50% Convertible Senior Note due 2025, of the Registrant	8-K	5/22/2020	4.3	
4.11	Form of Capped Call Confirmation in connection with 1.50% Convertible Senior Notes due 2025, of the Registrant	8-K	5/22/2020	10.1	
10.1	Transition Agreement between the Registrant and Thomas C. Ernst, Jr., dated July 13, 2020+	10-Q	8/4/2020	10.1	
10.2	Form of Restricted Stock Award Agreement approved for use under the RealPage, Inc. 2020 Equity Incentive Plan+				X
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*				X
31.2	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*				X
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*				X
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*				X
101.INS	Instance - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.				X
101.SCH	Inline XBRL Taxonomy Extension Schema				X
101.CAL	Inline XBRL Taxonomy Extension Calculation				X
101.DEF	Inline XBRL Taxonomy Extension Definition				X
101.LAB	Inline XBRL Taxonomy Extension Labels				X
101.PRE	Inline XBRL Taxonomy Extension Presentation				X
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)				X

\+ Indicates management contract or compensatory plan or arrangement.
* Furnished herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Date: November 6, 2020

RealPage, Inc.

By: /s/ Brian D. Shelton

Brian D. Shelton
Executive Vice President, Chief Financial Officer and Treasurer
(Principal Financial and Accounting Officer)

Exhibit 10.2

REALPAGE, INC.
2020 EQUITY INCENTIVE PLAN
RESTRICTED STOCK AWARD AGREEMENT

Unless otherwise defined herein, the terms defined in the RealPage, Inc. 2020 Equity Incentive Plan (the "Plan") will have the same defined meanings in this Restricted Stock Award Agreement (the "Award Agreement"), which includes the Notice of Restricted Stock Grant (the "Notice of Grant"), Terms and Conditions of Restricted Stock Grant attached hereto as Exhibit A, and all appendices and exhibits attached thereto.

NOTICE OF RESTRICTED STOCK GRANT

Participant Name: __________

You have been granted an Award of Restricted Stock, subject to the terms and conditions of the Plan and this Award Agreement, as follows:

Grant Number: __________

Date of Grant: __________

Total Number of Shares Granted: __________

Vesting Schedule:

Subject to any acceleration provisions contained in the Plan or set forth below, the Restricted Stock will vest and the Company's right to reacquire the Restricted Stock will lapse in accordance with the following schedule:

[INSERT APPLICABLE VESTING SCHEDULE]

By Participant's signature and the signature of the representative of RealPage, Inc. (the "Company") below, Participant and the Company agree that this Award of Restricted Stock is granted under and governed by the terms and conditions of the Plan and this Award Agreement, including the Terms and Conditions of Restricted Stock Grant, attached hereto as Exhibit A, all of which are made a part of this document. Participant acknowledges receipt of a copy of the Plan. Participant has reviewed the Plan and this Award Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Award Agreement and fully understands all provisions of the Plan and this Award Agreement. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator upon any questions relating to the Plan and this Award Agreement. Participant further agrees to notify the Company upon any change in the residence address indicated below.

PARTICIPANT: REALPAGE, INC.

Signature By

Print Name Title

Residence Address:

EXHIBIT A

TERMS AND CONDITIONS OF RESTRICTED STOCK GRANT

1. Grant of Restricted Stock. The Company hereby grants to the individual named in the Notice of Grant ("Participant") under the Plan an Award of Shares of Restricted Stock, subject to all of the terms and conditions in this Award Agreement and the Plan, which is incorporated herein by reference. Subject to Section 20(c) of the Plan, in the event of a conflict between the terms and conditions of the Plan and this Award Agreement, the terms and conditions of the Plan will prevail.

2. Escrow of Shares.

(a) All Shares of Restricted Stock will, upon execution of this Award Agreement, be delivered and deposited with an escrow holder designated by the Company (the "Escrow Holder"). The Shares of Restricted Stock will be held by the Escrow Holder until such time as the Shares of Restricted Stock vest or the date Participant ceases to be a Service Provider.

(b) The Escrow Holder will not be liable for any act it may do or omit to do with respect to holding the Shares of Restricted Stock in escrow while acting in good faith and in the exercise of its judgment.

(c) Upon Participant's termination as a Service Provider for any reason, the Escrow Holder, upon receipt of written notice of such termination, will take all steps necessary to accomplish the transfer of the unvested Shares of Restricted Stock to the Company. Participant hereby appoints the Escrow Holder, with full power of substitution, as Participant's true and lawful attorney-in-fact with irrevocable power and authority in the name and on behalf of Participant to take any action and execute all documents and instruments, including without limitation stock powers, which may be necessary to transfer the certificate or certificates evidencing such unvested Shares of Restricted Stock to the Company upon such termination.

(d) The Escrow Holder will take all steps necessary to accomplish the transfer of Shares of Restricted Stock to Participant after they vest following Participant's request that the Escrow Holder do so.

(e) Subject to the terms hereof, Participant will have all the rights of a stockholder with respect to the Shares while they are held in escrow, including without limitation, the right to vote the Shares and to receive any cash dividends declared thereon, subject to the limitations of Section 8(g) of the Plan.

(f) In the event of any dividend or other distribution (whether in the form of cash, Shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase, or exchange of Shares or other securities of the Company, or other change in the corporate structure of the Company affecting the Shares, the Shares of Restricted Stock will be increased, reduced or otherwise changed, and by virtue of any such change Participant will in his or her capacity as owner of unvested Shares of Restricted Stock be entitled to new or additional or different shares of stock, cash or securities (other than rights or warrants to purchase securities); such new or additional or different shares, cash or securities will thereupon be considered to be unvested Shares of Restricted Stock and will be subject to all of the conditions and restrictions which were applicable to the unvested Shares of Restricted Stock pursuant to this Award Agreement. If Participant receives rights or warrants with respect to any unvested Shares of Restricted Stock, such rights or warrants may be held or exercised by Participant, provided that until such exercise any such rights or warrants and after such exercise any shares or other securities acquired by the exercise of such rights or warrants will be considered to be unvested Shares of Restricted Stock and will be subject to all of the conditions and restrictions which were applicable to the unvested Shares of Restricted Stock pursuant to this Award Agreement. The Administrator in its absolute discretion at any time may accelerate the vesting of all or any portion of such new or additional shares of stock, cash or securities, rights or warrants to purchase securities or shares or other securities acquired by the exercise of such rights or warrants.

(g) The Company may instruct the transfer agent for its Common Stock to place a legend on the certificates representing the Restricted Stock or otherwise note its records as to the restrictions on transfer set forth in this Award Agreement.

3. Vesting Schedule. Except as provided in Section 4, and subject to Section 5, the Shares of Restricted Stock awarded by this Award Agreement will vest in accordance with the vesting provisions set forth in the Notice of Grant. Shares of Restricted Stock scheduled to vest on a certain date or upon the occurrence of a certain condition will not vest in Participant in accordance with any of the provisions of this Award Agreement, unless Participant will have been continuously a Service Provider from the Date of Grant until the date such vesting occurs.

4. Administrator Discretion. The Administrator, in its discretion, may accelerate the vesting of the balance, or some lesser portion of the balance, of the unvested Restricted Stock at any time, subject to the terms of the Plan. If so accelerated, such Restricted Stock will be considered as having vested as of the date specified by the Administrator.

5. Forfeiture Upon Termination as a Service Provider. Notwithstanding any contrary provision of this Award Agreement, the balance of the Shares of Restricted Stock that have not vested at the time of Participant's termination as a Service Provider for any reason will be forfeited and automatically transferred to and reacquired by the Company at no cost to the Company upon the date of such termination and Participant will have no further rights thereunder.

6. Death of Participant. Any distribution or delivery to be made to Participant under this Award Agreement will, if Participant is then deceased, be made to Participant's designated beneficiary, or if no beneficiary survives Participant, the administrator or executor of Participant's estate. Any such transferee must furnish the Company with (a) written notice of his or her status as transferee, and (b) evidence satisfactory to the Company to establish the validity of the transfer and compliance with any laws or regulations pertaining to said transfer.

7. Tax Obligations

(a) Responsibility for Taxes. Participant acknowledges that, regardless of any action taken by the Company or, if different, Participant's employer (the "Employer") or any Parent or Subsidiary to which Participant is providing services (together, the "Service Recipients"), the ultimate liability for any tax and/or social insurance liability obligations and requirements in connection with the Shares of Restricted Stock, including, without limitation, all federal, state, and local taxes (including the Participant's Federal Insurance Contributions Act (FICA) obligation) that are required to be withheld by any Service Recipient or other payment of tax-related items related to Participant's participation in the Plan and legally applicable to Participant (collectively, the "Tax Obligations"), is and remains Participant's sole responsibility and may exceed the amount actually withheld by the applicable Service Recipient(s). Participant further acknowledges no Service Recipient (A) makes any representations or undertakings regarding the treatment of any Tax Obligations in connection with any aspect of the Shares of Restricted Stock, including, but not limited to, the grant, vesting, release from escrow, subsequent sale of Shares acquired pursuant to this Award Agreement or the receipt of any dividends or other distributions, and (B) makes any commitment to and is under any obligation to structure the terms of the grant or any aspect of the Award of Restricted Stock to reduce or eliminate Participant's liability for Tax Obligations or achieve any particular tax result. Further, if Participant is subject to Tax Obligations in more than one jurisdiction between the Date of Grant and the date of any relevant taxable or tax withholding event, as applicable, Participant acknowledges that the applicable Service Recipient(s) (or former employer, as applicable) may be required to withhold or account for Tax Obligations in more than one jurisdiction. If Participant fails to make satisfactory arrangements for the payment of any required Tax Obligations hereunder at the time of the applicable taxable event, Participant acknowledges and agrees that the Company may refuse to issue or deliver the Shares. Participant understands that Section 83 of the Code taxes as ordinary income the difference between the purchase price, if any, for the Shares and the Fair Market Value of the Shares as of each vesting date.

(b) Tax Withholding. Notwithstanding any contrary provision of this Award Agreement, no certificate representing the Shares of Restricted Stock may be released from the escrow established pursuant to Section 2, unless and until satisfactory arrangements (as determined by the Administrator) will have been made by Participant with respect to the payment of all Tax Obligations. Prior to vesting of the Restricted Stock, Participant will pay or make adequate arrangements satisfactory to the Service Recipient to satisfy all Tax Obligations. Pursuant to such procedures as the Administrator may specify from time to time, the Company and/or the Employer shall withhold the amount required to be withheld for the payment of Tax Obligations. The Administrator, in its sole discretion and pursuant to such procedures as it may specify from time to time, may permit or require Participant to satisfy such Tax Obligations, in whole or in part (without limitation), if permissible by applicable local law, by (i) paying cash, (ii) electing to have the Company withhold otherwise deliverable Shares having a fair market value equal to the minimum statutory amount that is required to be withheld or such greater amount as the Administrator may determine if such amount would not result in adverse financial accounting consequences, as the Administrator determines in its sole discretion, (iii) withholding the amount of such Tax Obligations from Participant's wages or other cash compensation paid to

Participant by the Company and/or the Service Recipient, (iv) delivering to the Company already vested and owned Shares having a fair market value equal to such Tax Obligations, or (v) selling a sufficient number of such Shares otherwise deliverable to Participant through such means as the Company may determine in its sole discretion (whether through a broker or otherwise) equal to the minimum statutory amount that is required to be withheld or such greater amount as the Administrator may determine if such amount would not result in adverse financial accounting consequences, as the Administrator determines in its sole discretion. To the extent determined appropriate by the Company in its discretion, it will have the right (but not the obligation) to satisfy any Tax Obligations by reducing the number of Shares otherwise deliverable to Participant. If Participant fails to make satisfactory arrangements for the payment of such Tax Obligations hereunder at the time any applicable Shares of Restricted Stock otherwise are scheduled to vest pursuant to Sections 3 or 4, or at the time of another taxable event, Participant will permanently forfeit such Shares of Restricted Stock and any right to receive Shares thereunder and such Shares of Restricted Stock will be returned to the Company at no cost to the Company. Participant acknowledges and agrees that the Company may refuse to deliver the Shares if such Tax Obligations are not delivered at the time they are due.

(c) Tax Consequences. Participant has reviewed with his or her own tax advisors the U.S. federal, state, local and non-U.S. tax consequences of this investment and the transactions contemplated by this Award Agreement. With respect to such matters, Participant relies solely on such advisors and not on any statements or representations of the Company or any of its agents, written or oral.

8. Rights as Stockholder. Neither Participant nor any person claiming under or through Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until such Shares will have been issued, recorded on the records of the Company or its transfer agents or registrars, and delivered to Participant or the Escrow Agent. After such issuance, recordation and delivery, Participant will have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares.

9. No Guarantee of Continued Service. PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF THE SHARES OF RESTRICTED STOCK PURSUANT TO THE VESTING SCHEDULE HEREOF IS EARNED ONLY BY CONTINUING AS A SERVICE PROVIDER, WHICH UNLESS PROVIDED OTHERWISE UNDER APPLICABLE LAW IS AT THE WILL OF THE APPLICABLE SERVICE RECIPIENT AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THIS RESTRICTED STOCK OR ACQUIRING SHARES HEREUNDER. PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THIS AWARD AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED EMPLOYMENT OR ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND WILL NOT INTERFERE IN ANY WAY WITH PARTICIPANT'S RIGHT OR THE RIGHT OF ANY SERVICE RECIPIENT TO

TERMINATE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER AT ANY TIME, WITH OR WITHOUT CAUSE.

10. Address for Notices. Any notice to be given to the Company under the terms of this Award Agreement will be addressed to the Company, Chief Legal Officer at RealPage, Inc., 2201 Lakeside Blvd., Richardson, TX 75082, or at such other address as the Company may hereafter designate in writing.

11. Grant is Not Transferable. Except to the limited extent provided in Section 6, the unvested Shares subject to this grant and the rights and privileges conferred hereby will not be transferred, assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and will not be subject to sale under execution, attachment or similar process. Upon any attempt to transfer, assign, pledge, hypothecate or otherwise dispose of any unvested Shares of Restricted Stock subject to this grant, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, this grant and the rights and privileges conferred hereby immediately will become null and void.

12. Participant Covenants.

(a) Non-Competition/Non-Interference with Customers and Licensees.[1]

(i) Participant hereby agrees that, during the term of Participant's status as a Service Provider and for a period of one (1) year thereafter (the "Restricted Period") (other than on behalf of the Company or its affiliates), Participant shall not in any way, directly or indirectly, perform work in the Restricted Area for or on behalf of a Competing Business that in any way relates to, or is similar to, the work Participant has performed for the Company.

(ii) During the Restricted Period, Participant further agrees not to (i) other than on behalf of the Company or its affiliates, call upon, solicit, respond to, advise or otherwise do or attempt to do business with any then-existing or Past customer or licensee of the Company, or any affiliate of the Company, that Participant worked with, called upon, solicited, responded to, advised, or otherwise had business-related communications or dealings with, or received Company Confidential Information about, or (ii) solicit, induce, recruit or encourage any then-existing or Past customer or licensee of the Company or any affiliate, that Participant worked with, solicited, had business-related communications with, or received Company Confidential Information about, to limit, curtail, or stop doing business with the Company or any affiliate, or (iii) attempt to divert business directed to the Company or any affiliate by such then-existing or Past customer or licensee to any other person or entity, or (iv) assist, cooperate or encourage any third party to do any of the foregoing.

---

[1] *Not included for California or Massachusetts residents.*

(iii) "Past" customer or "Past" licensee shall mean any former customer or licensee of the Company or any affiliate within one (1) year of their having ceased to be a customer or licensee of the Company or any affiliate.

(iv) “Competing Business” shall mean the business of developing, designing, publishing, marketing, offering, licensing, selling, providing, maintaining or distributing software, databases, or other products or services (“products or services”) that are competitive with products or services offered by the Company or its affiliates for license, purchase or use by property owners, managers, investors, lenders, brokers, applicants, tenants, consumers or other persons or entities in connection with or related in any manner to the real estate industry. Such products or services include, without limitation, products or services used in connection with the management or operation (including but not limited to marketing, pricing, screening, leasing, maintaining, accounting, or billing) of, ownership of, investment in, research or analysis regarding, leasing or living in, or use or enjoyment of, real estate properties or assets, including without limitation multifamily housing, single family housing, multi-tenant facilities, commercial real estate properties, or vacation rental properties, or the units at any of such properties, or other real estate property types or market segments that are served from time to time by the Company or its affiliates. Without limiting the foregoing, products and services shall include software used in screening potential tenants, performing property management or accounting functions, providing pricing information or performing market research, communicating via the Internet with applicants, residents, service providers, suppliers or advertising providers, facilitating or providing billing, payments and cash management services, providing services that facilitate payments among providers and users of real estate properties or facilities, providing systems to control costs, providing energy management or convergent billing services and utility management or infrastructure services, producing, soliciting or assisting with the solicitation of insurance products or services or developing and providing other risk mitigation systems, or developing, marketing or selling single family or a multi-tenant vendor network solution, providing data center services, outsourced information technology or business process services specifically designed for or marketed for use by owners or managers of real property and related facilities. Without limiting the foregoing, “Competing Business” specifically includes, but is not limited to, the companies *[INSERT SPECIFICALLY IDENTIFIED COMPETITORS]*, and any of their respective affiliates, successors and assigns.

(v) “Restricted Area” shall mean each and every market or geographic area anywhere in the world in which the Company or its affiliates conduct business that Participant supported or in which Participant worked or provided services on behalf of the Company or its affiliates while a Service Provider.

(vi) “Company Confidential Information” shall mean all information, regardless of its form or format, about the Company, its customers and employees that is not readily accessible to the public and not a matter of common knowledge in the Company’s business trade or industry and that is disclosed to or learned by Participant as a direct or indirect consequence of or through Participant's employment or engagement with the Company, about the Company, its parents, subsidiaries or affiliates, including without limitation the Company's technical knowledge and business operations, including, by way of illustration, the Company's existing and contemplated products, trade secrets, formulas, patents, models, compilations, information relating to software programs, source codes or object codes, computer systems, computer systems analyses, testing results, flow charts and designs, product specifications and documentation, user documentation business and financial methods or practices, plans, pricing, marketing, merchandising and selling techniques, plans, strategies and information, customer lists, supplier and service lists, confidential information relating to the Company's policy and/or business strategy, or any of its executives, clients, agents or suppliers, sales plans, sales records, sales literature, customer files, research and development projects or plans, sales or licensing terms and conditions, consulting sources, procedure or policy manuals, legal matters, financial statements, financing methods, financial projections, and the terms and conditions of business arrangements with its parent, clients, suppliers, banks, or other financial institutions.

(b) Non-Interference with Employees. Participant hereby agrees, during the Restricted Period, not to, either directly or indirectly, solicit, induce, recruit or encourage any employee of the Company or any affiliate that Participant worked with, had business-related communications with, or received Company Confidential Information about, to leave their employment, or take away such employees, or attempt to solicit, induce, recruit, encourage or take away such employees of the Company or any affiliate, either for Participant or for any other person or entity, or otherwise hire as an employee or a consultant, for Participant or any other person or entity, any such employee of the Company or any affiliate.

(c) Non-Interference with Business Relationships. Participant hereby agrees that during the Restricted Period Participant shall not, directly or indirectly, take away or interfere with any contractual relationships or business relationships between the Company and any of the technology or distribution companies with whom the Company or any affiliate has strategic relationships, that Participant worked with, had business-related communications with, or received Company Confidential Information about.

(d) Non-Disparagement. Participant hereby agrees that during the Restricted Period Participant shall not disparage either orally or in writing the Company or any affiliate, their products or services, or their officers, directors, or employees. Notwithstanding the foregoing, this paragraph does not prohibit Participant from communicating with other Company personnel while Participant is a Service Provider, from discussing terms or conditions of employment while Participant is an employee of the Company or affiliate, or from disclosing information about unlawful acts in the workplace.

(e) Injunctive Relief. Participant recognizes and agrees that the injury the Company will suffer in the event of a breach of this Section 12 may cause the Company irreparable injury that cannot adequately be compensated by monetary damages alone. Therefore, in the event of a breach of this Section 12 by Participant, or any attempted or threatened breach, Participant agrees that the Company, without limiting any legal or equitable remedies available to it, may be entitled to equitable relief by preliminary and permanent injunction or otherwise, without the necessity of posting any bond or undertaking, against Participant and/or the business enterprise with which Participant may have become associated, from any court of competent jurisdiction.

(f) Reasonableness of Restrictions. Participant understands and acknowledges that Company would not have granted Restricted Stock to Participant without Participant's agreement to comply with the covenants set forth in Section 12 hereof. **Participant expressly acknowledges and agrees that the covenants and restrictive agreements contained in this Award Agreement are reasonable as to scope, location, and duration and that the observation thereof will not cause Participant undue hardship or unreasonably interfere with Participant's ability to earn a livelihood and practice Participant's present skills and trades. Participant has consulted with legal counsel of Participant's selection regarding the meaning of such covenants and restrictions, which have been explained to Participant's satisfaction.**

(g) Remedies. In the event of a breach of the covenants contained in Section 12 hereof, the periods provided in Section 12 shall be tolled (*i.e.*, such periods shall not run during a breach of any of these covenants) during the time of such violation, and Participant agrees that the Company shall be entitled to and a court may order an extension of time of the Restricted Period commensurate with the period of Participant's breach. In the event of such a breach, Participant further agrees that (a) any and all proceeds, funds, payments and proprietary interests, of every kind and description, arising from, or attributable to, such breach shall be the sole and exclusive property of the Company and (b) the Company shall be entitled to recover any additional actual damages incurred as a result of such breach.

(h) Legal Construction. The parties hereto further agree that if at any time it shall be determined that the restrictions contained in Section 12 are unreasonable as to scope, time, and/or area, by any court of competent jurisdiction, the Company shall be entitled to enforce this Award Agreement for such period of time, scope, and within such area as may be determined to be reasonable by such court. It is the intent of the parties hereto that the provisions hereof be enforceable to the fullest extent permitted by applicable law. Pronouns in masculine, feminine or neuter genders shall be construed to state and include any other gender and words, terms and titles (including terms defined herein) in the singular form shall be construed to include the plural and vice versa, unless the context otherwise expressly requires.

(i) Attorneys' Fees. If any action at law or in equity, including any action for declaratory or injunctive relief, is brought to enforce or interpret the provisions of this Section 12, the Company shall be entitled to recover reasonable attorneys' fees from Participant, should Company prevail in whole or in part therein, which fees may be set by the court in the trial of such action, or may be enforced in a separate action brought for that purpose, and which fees shall be in addition to any other relief which may be awarded.

13. No Waiver. Either party's failure to enforce any provision or provisions of this Award Agreement shall not in any way be construed as a waiver of any such provision or

provisions, nor prevent that party from thereafter enforcing each and every other provision of this Award Agreement. The rights granted both parties herein are cumulative and shall not constitute a waiver of either party's right to assert all other legal remedies available to it under the circumstances.

14. Successors and Assigns. The Company may assign any of its rights under this Award Agreement to single or multiple assignees, and this Award Agreement shall inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer herein set forth, this Award Agreement shall be binding upon Participant and his or her heirs, executors, administrators, successors and assigns. The rights and obligations of Participant under this Award Agreement may only be assigned with the prior written consent of the Company.

15. Additional Conditions to Issuance of Stock. If at any time the Company will determine, in its discretion, that the listing, registration, qualification or rule compliance of the Shares upon any securities exchange or under any state, federal or non-U.S. law, the tax code and related regulations or under the rulings or regulations of the United States Securities and Exchange Commission or any other governmental regulatory body or the clearance, consent or approval of the United States Securities and Exchange Commission or any other governmental regulatory authority is necessary or desirable as a condition to the issuance of Shares to Participant (or his or her estate) or the Escrow Holder hereunder, such issuance will not occur unless and until such listing, registration, qualification, rule compliance, clearance, consent or approval will have been completed, effected or obtained free of any conditions not acceptable to the Company. Subject to the terms of the Award Agreement and the Plan, the Company shall not be required to issue any certificate or certificates for Shares hereunder prior to the lapse of such reasonable period of time following the Date of Grant of the Shares of Restricted Stock as the Administrator may establish from time to time for reasons of administrative convenience.

16. Administrator Authority. The Administrator will have the power to interpret the Plan and this Award Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination of whether or not any Shares of Restricted Stock have vested). All actions taken and all interpretations and determinations made by the Administrator in good faith will be final and binding upon Participant, the Company and all other interested persons. Neither the Administrator nor any person acting on behalf of the Administrator will be personally liable for any action, determination, or interpretation made in good faith with respect to the Plan or this Award Agreement.

17. Electronic Delivery and Acceptance. The Company may, in its sole discretion, decide to deliver any documents related to the Shares of Restricted Stock awarded under the Plan or future Restricted Stock that may be awarded under the Plan by electronic means or request Participant's consent to participate in the Plan by electronic means. Participant hereby consents to receive such documents by electronic delivery and agrees to participate in the Plan through any on-line or electronic system established and maintained by the Company or a third party designated by the Company.

18. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Award Agreement.

19. Modifications to the Agreement. This Award Agreement constitutes the entire understanding of the parties on the subjects covered. Participant expressly warrants that he or she is not accepting this Award Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Award Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Award Agreement, the Company reserves the right to revise this Award Agreement as it deems necessary or advisable, in its sole discretion and without the consent of Participant, to comply with Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Section 409A in connection to this Award of Restricted Stock.

20. Forfeiture Events. Participant acknowledges and agrees that if Participant engages in Acts Harmful to the Interest of the Company (as defined herein) during the Restricted Period (whether before or after termination of status as a Service Provider), as determined by the Administrator, then, to the extent permitted by applicable law, (i) Participant will (A) immediately forfeit any right to the Shares of Restricted Stock issued under this Award Agreement, whether vested or unvested, and shall, within three (3) business days after receiving a written demand therefor from the Company, return and surrender to the Company for cancellation all Shares of Restricted Stock of the Company received by Participant pursuant to this Award Agreement, and (B) immediately forfeit any right to, and shall, within three (3) business days after receiving a written demand therefor from the Company, pay to the Company—either directly or, at the Company's discretion, through a payroll deduction from any amounts owed by the Company to Participant—a cash payment equal to the value of all proceeds received by Participant within six (6) months before or after the date of the termination of Participant's status as a Service Provider from the sale of any Shares of the Restricted Stock originally acquired by Participant pursuant to this Award of Restricted Stock. If a payroll deduction is insufficient to pay the Company the value of all such proceeds received by Participant, then Participant shall be required to make a cash payment to the Company in the amount of any deficiency.

For purposes of this provision, "Acts Harmful to the Interest of the Company" shall mean (a) accepting employment with or serving in any other capacity for any business entity that is in competition with the Company; (b) Participant's breach of any of the covenants set forth in Section 12 above; or (c) disclosing or using any Company Confidential Information without Company authorization under circumstances that are injurious to the Company.

21. Liability for Certain Disclosures. Participant shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that is made in confidence to a federal, state, or local government official or to an attorney solely for the purpose of reporting or investigating a suspected violation of law. Participant shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that is made in a complaint or other document filed in a lawsuit or other proceeding, if

such filing is made under seal. Participant is further notified that if Participant files a lawsuit for retaliation by the Company for reporting a suspected violation of law, Participant may disclose the Company's trade secrets to Participant's attorney and use the trade secret information in the court proceeding if Participant: (a) files any document containing the trade secret under seal; and (b) does not disclose the trade secret, except pursuant to court order.

22. Governing Law; Venue; Severability. This Award Agreement is governed by the [GOVERNING LAW VARIES BASED ON LOCATION OF EMPLOYEE]. For purposes of litigating any dispute that arises under this Award of Restricted Stock or this Award Agreement, the parties hereby submit to and consent to the jurisdiction of [JURISDICTION VARIES BASED ON LOCATION OF EMPLOYEE]. In the event that any provision hereof becomes or is declared by a court of competent jurisdiction to be illegal, unenforceable or void, the remaining provisions of this Award Agreement shall continue in full force and effect.

23. Entire Agreement. The Plan is incorporated herein by reference. The Plan and this Award Agreement (including the appendices and exhibits referenced herein) constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and Participant with respect to the subject matter hereof, and may not be modified adversely to the Participant's interest except by means of a writing signed by the Company and Participant.

24. Country Addendum. [INSERT COUNTRY ADDENDUM, IF APPLICABLE.]

Exhibit 31.1

CERTIFICATION PURSUANT TO RULE 13a-14(a) OR 15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Stephen T. Winn, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended September 30, 2020 of RealPage, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting.
5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: November 6, 2020

/s/ Stephen T. Winn

Stephen T. Winn

Chairman of the Board of Directors, Chief Executive Officer and Director

Exhibit 31.2

**CERTIFICATION PURSUANT TO RULE 13a-14(a) OR 15d-14(a) OF
THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002**

I, Brian D. Shelton, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended September 30, 2020 of RealPage, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting.
5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: November 6, 2020

/s/ Brian D. Shelton

Brian D. Shelton
Executive Vice President, Chief Financial Officer and Treasurer

Exhibit 32.1

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of RealPage, Inc. (the "Company") on Form 10-Q for the period ended September 30, 2020 (the "Report"), I, Stephen T. Winn, Chairman of the Board of Directors, Chief Executive Officer and Director of RealPage, Inc., certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) the Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of RealPage, Inc.

Date: November 6, 2020

/s/ Stephen T. Winn

Stephen T. Winn
Chairman of the Board of Directors, Chief Executive Officer and Director

A signed original of this written statement required by Section 906 has been provided to RealPage, Inc. and will be retained by RealPage, Inc. and furnished to the Securities and Exchange Commission or its staff upon request. The foregoing certification is being furnished solely pursuant to 18 U.S.C. Section 1350 and is not being filed as part of the Report or as a separate disclosure document.

Exhibit 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of RealPage, Inc. (the “Company”) on Form 10-Q for the period ended September 30, 2020 (the “Report”), I, Brian D. Shelton, Executive Vice President, Chief Financial Officer and Treasurer of RealPage, Inc., certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) the Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of RealPage, Inc.

Date: November 6, 2020

/s/ Brian D. Shelton

Brian D. Shelton
Executive Vice President, Chief Financial Officer and Treasurer

A signed original of this written statement required by Section 906 has been provided to RealPage, Inc. and will be retained by RealPage, Inc. and furnished to the Securities and Exchange Commission or its staff upon request. The foregoing certification is being furnished solely pursuant to 18 U.S.C. Section 1350 and is not being filed as part of the Report or as a separate disclosure document.